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The Significance of Elimination

THE evacuant drugs are among the oldest known to man. Centuries ago our professional forbears learned that it was good to empty the patient's bowels, and start the perspiration and the urine running off freely. Whatever fantastic theories they may have evolved to explain this fact, the fact was there—a many times repeated clinical observation—and the theories were devised to account for the undeniable fact. In time the development of human knowledge supersedes any theories, but the fact remains true even as it was in the days of Hippocrates.

Take, for instance, the entire class of febrile diseases. We know now that the peril lies mainly in the presence of toxins in the blood as it circulates to every part of the body, exert their disastrous impress on the weaker tissues, those already impaired by disease, and on the nervous centers. Whatever may be the source of the toxins, whether exuded into the blood current as the waste from cellular metabolism or arising from the life-processes of the invading microorganisms, the patient's safety depends upon his ability to excrete these poisons as fast as they accumulate; his recovery depending upon his ability to excrete them faster than they are formed.

Then, again, take the whole specialty of dermatology. The fundamental fact on which treatment here is built is the recognition of the effort of the skin to remove from the system matters not primarily intended to pass out by that channel, but by way of the bowels or the kidneys. Hence, the dermatologist looks first to the latter organs and seeks to raise their eliminative function to the normal point before thinking of attacking the cutaneous disease directly.

Take any chronic disease of any part of the body, and we find that one of the primary essentials for a cure is that the blood supplied to the affected tissues be kept free from toxins. Remove this depressing condition, and the curative processes of nature may then manifest their activity.

Eclampsia is a toxemia; delirium tremens is a toxemia. The epileptic paroxysm is due to accumulation of toxins in the blood. The pangs suffered by the morphinomaniac endeavoring to free himself from his deplorable habit are toxemic. Ocular maladies refuse to subside until the eye is fed with pure, nontoxic blood. The same thing is true of affections of the ear, the nose, the throat. That bugbear of the practician, "nasal catarrh," is kept up by toxemia.

Is there a solitary disease in the entire list that does not demand as one of the first considerations in its treatment the opening of the eliminant organs?

Empty the bowels by means of calomel or podophyllin, followed by a laxative saline to flush the entire canal; and—as Burggraeve used to put it—refresh the digestive apparatus. For the cure of chronic constipation, it is advisable to give combinations. Just as a six-cylinder automobile will give a smoother, easier motion than one with fewer cylinders, so it is with a judicious combination of intestinal tonics, each acting

upon a different part of the mechanism, and synergizing the other constituents. Thus, if we take a combination of aloin, to increase peristalsis, emetine, to increase the intestinal secretions; atropine, to relax the circular-muscular fibers of the intestinal coats; physostigmine, to energize the longitudinal fibers; capsicum, to increase the sensibility of the mucosa; and strychnine, to energize all these, and the reactions of the system with them, we then will get results that far exceeds the sum-total of those to be gained from the ingredients taken separately. That is, let the cathartic power of the components be computed at 50, and we find that the power of the combination is about double that, or 100. This is an example of the synergism witnessed when a prescription is constructed on correct principles.

None of the old diaphoretics compares in power and value with pilocarpine. Not only does this remarkable agent increase the output of sweat enormously, but the secretion contains much more of the solid toxic excretory principles than the ordinary secretion. Dover's powder has its place, but this is a limited one, and it is not employed much nowadays. Possibly some old-fashioned countrymen still employ the "corn-sweats"—an effective measure without any special objectionable features. The use of large quantities of hot drinks is often unwise, as we do not wish to flood the patient's system with water and raise the blood pressure or to dilute this fluid so that the red corpuscles are in danger of breaking up. Sometimes, though, we do want to do just this thing, and we flush the system with vast quantities of water. This was one reason for the success of the older Thomsonians, who gave their decoctions in doses of a tincupful every hour, and had excellent results. Unfortunately they did not always discriminate between the effects of the water and those of the plant, and therefore gave credit to the latter that the more scientific studies of later times failed to verify.

There is no more obscure and illy comprehended department of therapeutics than that of the diuretics. The mode of operation of the old saline diuretics (the alkali acetates, tartrates, bitartrates, etc.) never has been elucidated. It is still a question as to whether they possess any such action apart from that of the water in which they are administered. The volatile oils, like that of juniper, act by directly irritating the dialyzing membrane of the kidney; and this rarely is desirable, indeed often it is perilous. A little dose of the oil may increase the output of urine, but when the amount is increased the excretion may fall off so quickly as to occasion trepidation in the heart of the doctor. Continuous irritation of this delicate structure—as by the use of gin as a beverage, or the popular "cocktail"—is almost surely the most frequent cause of interstitial nephritis.

One of the most interesting studies in therapeutics is that of the diuretic application of the vasomotor tensors and relaxants. Water flows feebly, if at all, through a swamp; the only way to establish a current is to canalize it. When in anasarca with extreme vasomotor relaxation the capillary circulation has degenerated into a swamp, we may canalize by the use of the vascular tensors, digitoxin, apocynin, digitalin or scillitin.

Take a pig's intestine, a sausage-casing, and try to blow through it—you can not do this, because the whole force of your lungs is expended in forcing apart the flabby walls. Now substitute for the gut a tin tube of the same length and diameter, and you can blow through it with the greatest ease.

The heart meets the same difficulty in its task of forcing the blood through the flabby, relaxed vessels. Give just enough of these vascular tensors to restore normal tension and caliber to them, and the heart's work is facilitated. Go beyond this point, and you contract the lumen of the vessels and waste the heart's power by compelling it to force the blood through narrower orifices. There is no more beautiful exemplification of the art of the true physician than this nice fitting of his doses to the exact need.

Fraenkel asserted that true digitalin reached the acme of its action only after thirty hours, while digitoxin required twice that time. As digitalis is usually given in doses repeated every four hours, by the time the patient experienced the full action of the first dose he would be taking the sixteenth. No wonder the drug "cumulated." Subsequent investigations have not confirmed Fraenkel, but, at any rate, these two powerful glucosides take far more time than most practicians realize. Besides, both of them exert more of the vasotensor activity than they do of the cardiotonic influence; so that overdoses will close the arterial outlets, while the heart is lashed to fury in the unavailing effort to force the blood through the spasmodically contracted arterioles.

Digitalein certainly has decided advantages over the more slowly acting glucosides just

mentioned, especially when time is a factor to be considered and immediate action is required. Its action, according to Fraenkel, begins within half an hour and is well over within four hours, unless quite large doses are given; also, it has a less constricting action upon the vessels than digitoxin and the less soluble glucosides. But there is a "fly in the ointment"—even with digitalein—for only recently Kraft has asserted that this supposedly single glucoside is really a complex substance itself, being composed of all the water-soluble principles.

If we exclude digitonin (which occurs in appreciable quantities only in the seed of digitalis), we may divide the digitalis glucosides into two classes: those not readily soluble in water, generally powerful vasoconstrictors, which act slowly; and those readily soluble in water, also valuable cardiotonics, which act quickly. Which we shall use depends upon the character of the case.

When we desire vasoconstriction, with prolonged action, as in the treatment of dropsy, we should chose the former and more powerful agents mentioned; or apocynin may be substituted. This latter drug was so highly prized by those who used and knew it best that it was termed "the vegetable trocar." It may be given in doses of 1-2 centigram every four hours, increased to 2 centigrams or until it begins to act on the bowels.

When we find the urine deficient from overtonicity of the arteries, as after too large dosage with digitoxin, we can increase the output of urine only by relaxing tension of the renal arteries and permitting a larger supply of blood to reach the glomeruli. Here we may utilize the nitrites for quick action; but for more sustained effects we resort to the energetic sedative powers of aconitine, veratrine or antimony. The fifth glucoside of the foxglove is digitonin. This acts like saponin, and relaxes the vascular tension as well as sedating the heart. It begins to exert its activity within a few minutes, and the effects of small doses are well over within an hour. It is easy to see that it can have no appreciable effect in relaxing the contraction by digitoxin when given in the same dose. Its therapeutic value has of late years been questioned.

In states of high vascular tension, such as arteriosclerosis, the action of these vasorelaxants is more than palliative. By allowing a freer flow of blood to the eliminant apparatus, they favor the excretion of toxins, which by irritating the delicate walls of the capillaries cause contraction and consequent cardiac hypertrophy. In so far as this is an etiologic element of the case, they are curative. If efficient measures are also taken to limit the flow of toxins into the blood, life may be prolonged indefinitely, even after the malady has reached an advanced stage of development.

"If you have no confidence in your ability or ambition—if you're content to be systematized—you'll become a human locomotive, running on prearranged schedules, passing and repassing over the same ties locked to the tracks, pulling and hauling when and wherever you're ordered—a mere automaton, your destiny controlled by better and bolder brains."

So says Herbert Kaufman, and so say I. One must think and act for himself if he would win.

—W. C. Abbott.

PROFESSIONAL ETHICS

In the earliest day, when mankind first began to congregate into communities, it became necessary to establish rules and limits to prevent the wants of the one overstepping the rights of the other. A few simple maxims sufficed for the needs of primitive times and conditions, and the decalog furnishes of this an example. But even this code shows evidences of development, for the last commandment betokens a state of mental growth where motives were recognized as culpable, as well as actions; and the first four denote the rise of a priestly cult. Excluding these, we have the first needs of men as members of a community—security of life, property, wives, the denunciation of lying, and that veneration for parents that justifies the latter in making their sacrifices for the children.

The increase of population brought complexities demanding the increase of regulation, until now the law is so unwieldy and complicated that not the most erudite of its devotees can always be sure of his opinions as to what really is law. Admitting that a man sincerely desires to do what is right, it may be a difficult or even impossible matter to say exactly what is the right. This also depends upon what is the standpoint of him who seeks to make the decision. What does one mean by the "right"?

Some content themselves with retraint within the bounds of the legally right—so long as they keep out of jail they let it go at that. Two men go into partnership and deposit their funds in a bank. One of them draws out the money and keeps it. Legally right, to be sure, for the law says it would be impossible for business to be transacted unless each partner were allowed this right. But

it surely does not tally with the ethic standard of him who looks at such matters from the moral point. With the latter, the question is neither as to the legality nor the permissibility of a matter, but as to its righteousness.

The right or wrong of an action goes far deeper than its legality. Conscience rules instead of legal enactment. True, the consciences of men differ, and sometimes they make men play strange antics. The Boers read nothing but the Bible, and applied to themselves the savage exhortations given to the Hebrews as to exterminating the Canaanites, root and branch. It was no small part of their grievances against the English that the latter would not suffer the Boers to obey their consciences and exterminate the Kaffirs. Men can persuade themselves that almost anything they want to do is a duty. Nearly every man who begins the treatment to enable him to desist from the morphine-habit, when he reaches a certain point and feels the craving for that drug, begins to persuade himself that it is his duty to go home and work, to do something or anything that will excuse his taking a dose.

Beyond the legal and the moral there comes the consideration of the rules and limits established by "society." It is neither illegal nor immoral for a man to go barefooted in the street of a city, but society forbids. Custom and the professional ethics forbid the physician's advertising for patients, and transgression of this rule excludes him from the more elevated circles of his profession. In fact, a physician may be a drunkard or immoral and yet pass muster, provided he does not advertise.

From these various codes results a sad jumble. In the medical profession may be found men who would not advertise in a newspaper, but who exercise their ingenuity to secure every form of advertising that would not bring them under the ban. Illustrated interviews may appear in the daily papers, but not an openly paid advertisement. The most eminent members are those who can come the nearest to the prohibited line without actually passing it. There also are men who do not hesitate to take the last dollar from their patients for operations totally unnecessary—yet these men are strictly ethical.

On the other hand, there are physicians, regular graduates of the most reputable colleges, legally registered, who travel over the country and insert their pictures and advertisements in the papers. They may do an honest business, never taking a dollar they do not fairly earn, doing good professional work, holding the confidence of patients for many years, and yet they are not ethical, although their business is legal and moral.

The one class consists of legal and ethical, but immoral scoundrels; the other, of men who are ethically moral, but legal outcasts.

I do not defend these men. The ethic standards of the profession are wise and just; but they should be superadded to legality, morality, and something beyond these—altruism. The confidence reposed in the physician is so absolute, so necessary to his duty, that he must adhere to a higher standard than any other men. He must not let the question of monetary reward influence his advice. The only consideration before him is the best interests of his patient.

There is presented, therefore, an intermixture of all the various standards mentioned, with a tendency to the legal—"do anything so long as you are not caught." Here we have the discipline of ancient Sparta repeated in modern times. The Spartan boy was taught to steal but not to permit himself to be caught, the theft being looked upon as creditable in itself.

There seem to be many Spartans among moderns. In boys' schools a similar sentiment prevails largely, and they "swipe" each others' goods without compunction, the victim being adjured to take better care of his effects in future. In legal circles the maxim "*caveat emptor*"—the buyer must care for his own interests—is an acknowledged principle.

Summing the matter, our advice to the new doctor should be:

Be honest. Keep your conscience clean. Do nothing you might fear the whole world to know. Do nothing you might fear your wife to know. Do nothing that would make you fear to face your final account on the Great Day.

Be ethical. It is not worth while to forfeit the esteem and respect of the most ethical of the profession. Professional standing is like a woman's honor—its value is never so apparent as when it has been lost. Men have postponed being ethical until they have "made their pile," only to find that they would willingly give it all to find themselves again within the pale. Better endure poverty for a time, knowing that true worth must surely be recognized; and exercise your wits to hasten that day, rather than lose what can never be replaced afterward. We know one man, very ethical today, very "swell," who yet lives in dread that somebody may

one day make public the fact that when young he used to have in the newspapers of a neighboring town the paid announcement that he "stood for a season" each week at the hotel. About this way: "Dr. White, the distinguished Chicago specialist in diseases of the eye, ear, nose, and throat, will be at the Nevertell Hotel of this city on Mondays and Wednesdays."

Be diligent in business, and get your finances upon a solid foundation by the good old method of doing your work so well that it advertises you; by keeping your expenses within your income; by avoiding a display that wastes your substance and piles up debt, without deceiving anybody; and by finding methods of becoming acquainted and making friends that are yet honest and ethical. How? My dear boy, what are your brains for?

Still further, over and beyond all this, keep in mind that Eleventh Commandment, that embraces and supersedes all the rest: love God and love your neighbor.

Labor is rest—from the sorrows that greet us;
Rest from all petty vexations that meet us,
Rest from sin-promptings that ever entreat us,
Rest from world-sirens that lure us to ill.
Work—and pure slumbers shall wait on thy pillow;
Work—thou shalt ride over Care's coming billow;
Lie not down wearied 'neath Woe's weeping willow;
Work with a stout heart and resolute will!

—Frances Sargent Osgood.

A VOLIVA BLAST

Picked up on a street car a pamphlet emanating from Wilbur Glenn Voliva, entitled: "Doctors and Drugs, Surgeons and Knives." The "argument" of this battling Elijah is lucid, his logic irrefragable, but it leaves one involved in one difficulty—to account for the fact that even now, in this twentieth century of enlightenment, such a person could hold a following. Surely, when we asserted that civilization was only skin-deep we struck pretty close to the truth.

The Argument:

1. Medicine originated in the heathen temples; hence, today we should shun doctors when we are ill.

2. (*a*) The Greek word *pharmakeia* means "using drugs, poisoning or sorcery"; therefore, we should not guzzle Jamaica ginger, but let 'er ache. (*b*) Job told his advisory council, "Ye are all physicians of no value"; hence, when modern medicine warns us against draining the privy into the family well, we must not heed.

3. Many physicians have exclaimed against the imperfections of medicine and the absurdities of crude drugs, but instead of exerting ourselves to remedy these faults we must sit down and "let God do it." Why, certainly; and while we are about it, why not let Him feed, clothe, protect, and care for us? Why stretch out a hand to pluck an apple—just have faith and the apple will come into our mouth. Why plant grain? Why do anything? Effort to better our condition is immoral; it betokens lack of faith and of dependence on our own selves.

Why does Wilbur rant and rave thus? Doesn't he know that when God wants the Gentiles to be converted He will attend to the matter without having to call on Voliva for aid? Better show your own faith by minding your own business—but that's just what Voliva is doing. The closing pages of this circular are occupied by a violent attack upon pork, and an ad of the Zion Home, where the sick and afflicted are urged to resort at so much per! Terms given. Cut of building. Address the General Ecclesiastical Secretary.

We call the attention of the astute managers of the medical profession to this matter, and would suggest that the remedy should be to add another year to the medical course, require the degree of LL. D. of every applicant for matriculation, proscribe every state board that does not reject 99 percent of the candidates for registration—or, better yet, close all the medical colleges except their own and declare a closed season for doctors for ten years.

Some carping casuist may object that these remedies do not seem to fit the need; but we reply that these are the only official methods recognized; and if they do not fit the case the patient must exchange his malady for one they do fit.

SNOBBERY

Dr. Lorenz' trip to America, a few years ago, to attend the child of a wealthy American may be remembered. The question was then raised as to whether this foreigner should be accorded the privilege of practice here without passing the tests exacted by the law of the State. Snobbery claimed, he being a very distinguished European, that it was absurd to ask him to submit to the tests like a common man. Common sense suggested that, if the education of a doctor in Europe were so very superior to that of an American, there would be the less danger of his failure to meet our requirements.

Justice asked that he be subjected to the same trial an American physician would meet when desiring to attend a patient in the foreign-visitor's country. It is generally believed that the first suggestion was adopted by giving the distinguished visitor a minimal examination only.

But suppose, now, anyone of our dignitaries were to voyage abroad and present himself as an applicant for permission to practice! The attitude of the authorities across the waters would be, to seek an excuse for refusing. Keep him out! Only admit him if he so demonstrates his fitness as to disarm all objections. And that would be easy?

Just now we have another such "immigrant," Dr. Bickel, who is to treat the wife of a magnate for anemia by applying radium. The old question arises, Shall he be humiliated by a call to show how many and what muscles are attached to the hyoid bone; to give the cranial nerves, their origin, deep and superficial, course, relations, and physiology; to construct schemas of the mydriatic alkaloids; to describe the manufacture of veronal; explain the processes and rationale of digestion?

Why not? If our own medical graduates are required to know this stuff, why handicap them by permitting foreigners to enter without the same requirements?

The unfortunate thing is that drugs are confused with drugging. Most of the drugging is done by the public itself.—Vermont Medical Monthly.

THE NEWSPAPERS AGAIN

For all the Athenians and strangers which were there spent their time in nothing else but *either to tell or to hear some new things.* Acts, 17 : 21.

If the Athenians of old and the Romans of the time of Paul had had newspapers, the miracles worked by the Prophet of Nazareth would probably have been exploited, and some Roman or Athenian banker would have offered him a million sesterces or would otherwise have proposed to finance the establishment of a sanatorium for the treatment of lepers and all sorts of other patients.

We have before now spoken about the craving for new things and of the gullibility of the public and also have criticized the irresponsible manner in which this weakness of the public is fostered and catered to by the press, on the specious excuse that the people demand news. The press usually poses as an educating force in public life; and if that claim be granted its duty would seem to be to elevate and educate the public taste. Instead of this, it appears as though the press panders and caters to the basest desires of the public mind, and certainly to the most morbid curiosity. For the sake of presenting what it designates as news, the press never hesitates to play upon the sympathies and upon the tender feelings of people, arousing hopes of unhoped-for benefits, only to destroy them as ruthlessly as they have been vainly aroused.

A collection of the newspaper clippings concerning Dr. Friedmann's new tuberculosis remedy since last November presents reading material which should make newspaper men blush, and which certainly makes us indignant. In spite of a frequent warning not to expect too much, in spite of a skepticism which undoubtedly was inspired by the conservative discussion in medical journals, the newspapers printed the most outrageous talks, the most impossible stories concerning the value and the virtues of this new remedy. Some newspaper reporters even stooped to cable alleged interviews which were lies on their face, because no bacteriologist nor a physician of Friedmann's standing could have been guilty of making such foolish assertions as were attributed to him.

In spite of all warnings, in spite of the well-founded assertions of medical editors that it would require a long time for the remedy to be established, even if it should prove valuable, the hopes of thousands of consumptives were aroused and stimulated and the impossible was all but promised, though it took only two short months before the newspapers began to publish unfavorable reports and to print hints that, after all, the new remedy that was to eradicate tuberculosis from the face of the earth did not do what had been believed it would do and could not accomplish more or better things than had been done with methods in use for the last twenty years.

American newspaper enterprise, in obtaining news at all cost—no matter what, no matter whether justified or not—if only it can be called news, is notorious the world over. It has in the past wrought untold harm, and does so again, and it is a damnable imposition upon the patience of the people. It has before now been asserted that medical matters that are prepared for newspapers should be edited by physicians, and the necessity of such editing and such censoring becomes more and more manifest.

It would seem as though the newspapers had learned their lesson twenty years ago, when they forced the communication o

Koch's tuberculin, and but a very few years ago, when they discussed Ehrlich's salvarsan with such utter disregard of facts and truth, and then discovered, in the sequel, to what their methods lead in injuring the public. It seems as though there should be some way open to muzzle newspapers in matters in which the happiness of thousands is at stake.

The water is going to be squeezed out of the big trusts. The time is coming, and soon, when they will no longer be able to exact enormous dividends on fictitious capital. The water is going to be squeezed out of our medicines—and with it will go the dirt, coloring matter, gums and waste. The physician will treat his patients with medicine that is all medicine—pure, clean, exact, palatable. The waste and dirt are all pretense. Why pay dividends on them?

MAKING A DIAGNOSIS: WHAT DOES IT IMPLY?

Correct diagnosis is a jewel. Not for a moment, or by a breath, would we belittle its value. Like all jewels, its preciousness is enhanced by its comparative rarity. And only in this respect alone would we disturb its status among the mediçal arts—by just so much as we can make it more common and more readily attainable. For, to carry our illustration a step further, it does not diminish the real inherent worth of a jewel to make it plentiful; only a certain concentration of commercial value is disturbed, with which, of course, the true lover of stones has no concern.

So, let accurate diagnosis multiply and prosper, and let no man's tongue wag against it. But I think it quite possible, even probable, if not certain, that the scarcity of the real article may be due in large measure to the counterfeits that pass current in our teaching and practice. And the fact that these counterfeits are able to pass current is due, in its turn, to a certain fetish of terminology and nomenclature, of which it seems almost impossible to purge medical science—just as a certain fetish of signature, let us say, makes it possible to palm off counterfeits of master paintings and writings, and even causes us to fall down and worship genuinely signed work which is nevertheless not good work at all.

What is meant by correct diagnosis? What is it that the average physician—and especially the newly graduated physician—sets himself to do in the making of a diagnosis? Is it not, in effect, to give a name to the disease? Certain groups of symptom-complexes have, by the empiricism of the ages, been systematized into "diseases," and ticketed for the sake of convenience with a disease-name. And diagnosis, as she is taught and practiced, consists principally in a feverish effort on the part of the physician to catalogue the disease; and he will not be comforted unless he can put a label on it.

Now, no one disputes the wisdom, or even the necessity, of systematizing these symptom-complexes, and of designating them by convenient nomenclature. Nor does anyone question the desirability of checking up one's diagnostic findings against this systematic classification. To be sure, it has not anything like the inexorable finality that we are sometimes disposed to attach to it, for it has been radically modified within the lifetime of most of us, and is, in fact, in a continual flux of change. Nevertheless, as it stands in any given period, it represents the net sum of observation and experience, and must serve as the index of diagnosis, unless every man's individual diagnosis is to be, *de novo*, a law unto itself, with whatever nomenclature and significance he chooses to attach to it—and that would be a reversion from science to chaos.

But, then, it does not follow that, whenever a physician has run out a sufficient list of symptoms, and, checking them up with this tabulated nomenclature, has ticketed them with a disease-name, he has made a diagnosis. Nor does it follow that, where he has failed to do this, he has necessarily failed in diagnosing his case. Such classification, while it may be the index, is not the essence of diagnosis. The essence of diagnosis is, that the physician shall be able, by means of the diagnostic methods at his command, by inspection, and percussion, and auscultation, and analyses of secretions, and what not, to get a mental picture of the pathologic processes that are going on in the patient's body, and to correlate these processes into an interdependence. It is quite conceivable that a man might do this with thoroughness and clarity, and yet be unable, for a time at least, to give the disease a name. And it is more than conceivable that a man might be able to check up symptoms with a name, and yet have no conception of their pathologic significance. The diseases labeled in the textbooks are, after all, as we have intimated, not finalities, but types, and flexible types at that.

Unfortunately, this is the way in which most of our textbooks, and most of our instructors, teach diagnosis. They first give the disease a bad name, and then proceed to hang it. Or they pile up a list of symptoms,

check it up with the table of disease-names, and label it. One order of procedure is as bad as the other. And this is what the medical student learns to expect, and even to demand, in his course in diagnosis. Only the other day the writer went to great pains to simplify for a class of students the plain pathologic significance of râles in the chest—how that a dry râle always meant the crumpling of dry collapsed tissue, a moist râle always the passage of air through fluid, etc.—when he was impatiently interrupted by one of his hearers with the question, "Why don't you give us the classification of râles, and the diseases in which they occur?" Nuff sed!

The crucial aspect of the matter, of course, is the therapeutic aspect. The end of diagnosis is treatment; and successful treatment rests upon accurate diagnosis. Hence the urgent and frequent insistence upon correct diagnosis. But all too often the younger physician, and sometimes the older one, too, misunderstands the necessity in the case.

I once knew two distinguished clinicians, one a regular, the other a Homeopath, both excellent men. One of them, the regular, always consistently refused to prescribe for his patient until he should have made a complete classified diagnosis of the disease; the other, the Homeopath, used to declare that it was not necessary to make a classified diagnosis at all in order to prescribe.

There you have the two extreme sides of the matter; and both, I think, were wrong. One kept his patient waiting long after he might have been intelligently helping him, and so lost valuable time; the other just as frequently went off at half-cock, and missed the guiding key to direct and effective therapy.

It is not necessary to check up and index a disease before beginning treatment; as soon as underlying pathologic processes are recognized, the physician is justified in attacking them—nay, he is obligated to do so. But, on the other hand, he has not thoroughly and adequately canvassed the pathologic conditions until he is able to recognize and classify the type represented by the disease-complex. This he ought to do, and not to leave the other undone.

PHYSICAL CULTURE OF WOMEN

The Young Women's Christian Association of Richmond, Virginia, has inaugurated a movement that must result in great good if it is carried out effectively, namely, to promote physical culture among women. There is need.

Too many women find themselves necessitated to meet conditions requiring physical exertions which they are hardly qualified to make. Their education, their girlhood's pursuits have not developed that healthy, capable body and the muscular strength demanded of them. The gallantry that assumes for women the role of ornament, disdaining use and duty, fails when put to the test of actual life. Too late they learn the necessity of possessing a wholesome, healthy, symmetrically developed personality; entitling them to take that stand beside man they so enthusiastically demand, instead of being a clog and encumbrance through their burden of ill-health and incapacity.

Time was when a young woman was expected to be exquisitely sensitive. Under any and all circumstances she should faint, regardless of the proximity of supporting masculine arms. All vulgarity must be eschewed in conversation with her—and most things, in the eyes of that generation, were vulgar. Tom Cringle took this off well when he represented the West Indian creole lady as protesting against being asked to take a slice of turkey "breast," when it should have been called turkey "bosom"!

Now we have the invalid who is unable to bear up under her burdens and regales her man with woes until he is desperate. Christian Science has been a boon for many households by stopping that pitiful habit; and this weird cult might be excused much were it not for the disasters that so frequently follow its advice to disregard the warnings sent by nature of beginning disorders.

Let us hope that the movement among women to share the work of men will lead them to study their physical deficiencies, as well as the means of developing the strength that will enable them to perform these duties like men.

OPTIMISM AND PROGRESS

There has always been and there always will be, the two classes of men, usually described as the optimists and the pessimists. Some men usually look on the bright side of affairs, while some other men usually see only the dark side. It is a matter of temperament somewhat, of liver more, and of habit mainly.

Temperament one may compensate. The care of "the liver," and of the alimentary canal in general, is one of the things one must learn if he hopes that his days may be long in the land and well filled with usefulness

and happiness. But we are mainly concerned with habit.

Many persons are unconscious of their habits. In fact the definition of habit might be, "that peculiarity of which the possessor is unconscious." Something happens that gives a man a tendency in the direction of growling, and it is congenial to him, or circumstances follow that confirm it, and before he knows it, he is a settled grouch. Perhaps he has opposed some project, and it has not succeeded; he begins to plume himself on his prophetic abilities, and looks for opportunities to repeat. The disposition to criticize, to find fault increases until he is ever ready to croak of coming failure.

Too frequently this dismal foreboding is itself the cause of its own fulfilment; for others, hearing of our prophet's condemnation of something in which they are interested, and remembering the bad outcome of projects previously condemned to failure by his jeremiads, lose faith in themselves and their own work, the matter in hand is pushed half-heartedly, and its failure is therefore inevitable.

Such a man is a nuisance in any community, and should be suppressed at the first opportunity. He renders progress impossible. Enterprise withers before his wo-predicting lucubrations, and disaster follows their disregarding.

It is just as easy to form a good habit as it is to contract a bad one. One need not grow into a grouch, a sorehead, a hangback, a croaker, a discourager of effort, a wet-blanket upon enterprise, and an inhibitor of progress.

On the other hand, one need not be like old Dr. Q., whose forty years' practice have taught him absolutely nothing, but who invariably recommends what the last number of the *Wochenschrift* has introduced. Speak to him of what he waxed enthusiastic over last week, and he has deserted it for this week's instalment.

What a simple matter it is to do the right thing, and how easy! Begin in good old Davy Crockett's way, and first be sure you are right. Study the thing out in all its aspects. Foresee the objections and give them due weight. Meet them with remedies. Satisfy yourself that the thing *is* right, that it ought to be, that it can be, and that you can command the means of making it be; then look for the objectors, learn what they can say and what they can and are likely to do, and how you can meet their opposition. Then, if satisfied, determine what is the best way to go at the matter in order to bring it to a successful issue.

This done, you are on the true and only right way to be an optimist. For the man who knows is always successful; while the man who thinks he knows finds pits opening under his feet.

It's largely a matter of age and of success. The youth who has large wants looks on the world as his "oyster" and proceeds to open it. He wants more than he has, and is not satisfied with things as he finds them—so he is naturally a progressive, a liberal, a radical, a reformer, at least in his own eyes. The aging man who has succeeded in winning is most anxious to hold on to what he has won, and not so much concerned in winning more. He is naturally a conservative, a standpatter, and an opponent of the innovator who tries to upset the established order of things and render vested rights insecure.

Evidently, both these men are essential to the well-being of humanity, the progress and safety of society, the advances demanded by civilization and the stability that renders these of true value.

I am by nature an optimist. I am a believer in eternal, never-ending progress. I believe in the relation of cause and effect, and that we may reason back from effect to cause. Hence, whenever any assertion is made as to the therapeutic efficacy of any measure, I am disposed to look on such an assertion as founded on something that induced it if it did not cause it; and to make the assertion the basis of experiment to ascertain if the facts justify the claims.

This is not *pure* optimism, for the optimist unquestioningly accepts the matter as a fact, without waiting for a trial; while the pessimist assumes that it is not true until proven beyond the shadow of peradventure. The one runs great risks of imperiling life by applying a new and untried remedy before its field and limitations have been determined; the other loses the chance of bettering his means of treating the sick and saving life by neglecting chances.

It is good for any doctor to render himself familiar with the history of medicine, and to note the attitude assumed by physicians toward the great discoveries and advances in our art. Every really important advance has been opposed at first, and has had to make its way despite the opposition of the great men, those whose age and attainments rendered them entitled to the designation of "authorities." The authority is necessarily

conservative. He has a reputation to defend, and his adherence to a new tenet is sure to be assailed, hence he must be slow and sure in yielding assent. Then it is so much easier to oppose and call for proof—and your authority has earned the desire for repose, if not the right to it.

Looking back over what I have written, I am not quite sure whether I have succeeded in lining myself with either or any party. The optimist says I have faith only in things when they have been so proved that everybody may subscribe to them. The pessimist says I encourage innovations and lend force to every movement that upsets things. So I probably represent just myself!

If you think, when pain assails you,
Other people will cry "Ouch!"
If you, when the thing that ails you
Is a well-developed grouch,
Fancy that the world will sadly
Sip of wormwood or of gall,
You are off, and mighty badly,
That is all.

—S. E. Kiser.

THE MEDICINAL TREATMENT OF SHOCK

In *The American Journal of Surgery* for October, 1912, Drs. Vander Veer and Bendell discuss the treatment of shock in its relation to emergency surgery. This subject may be roughly divided into two parts: First, shock due primarily to loss of blood, as in crushing injuries of legs and arms, where, through rupture of large vessels, the patient becomes exsanguinated. Second, cases of severe trauma without great loss of blood, producing a condition of shock *per se*, with lowering of vasomotor tone.

In all cases of shock, brought about either directly through loss of blood, or in any way aided by the latter, the administration of normal salt solution is a matter of routine and is productive of good results in those cases in which the vasomotor tone is not lowered and in which the heart continues its share of work, being capable of exerting satisfactory muscular contractions; because then the addition of a substance to the organism most nearly approaching the normal blood-serum furnishes nature with an artificial but nevertheless efficient means of restoring the disturbed equilibrium.

Given, however, a condition of surgical shock, with loss of vasomotor tone not dependent upon vascular depletion, and the addition of fluid to a body containing an already crippled heart, may work havoc. The indiscriminate use of normal salt solution in conditions such as the foregoing, not dependent upon actual loss of blood, is unnecessary and contraindicated. It is a matter of necessity to administer saline solution under certain circumstances, but in others it is a procedure to be condemned.

The authors administer as a matter of routine 750 Cc. of saline solution subcutaneously as an initial dose. They introduce it slowly, and continue the administration as necessary.

Instead of inserting the needle in the subpectoral area, they believe that a more convenient and safer location is found at the junction of the second right costal cartilage with the rib, having the needle-point slightly downward toward the axilla. The lymph-channels in the latter area readily absorb the fluid as it enters underneath the integument.

The saline solution should not be cooler than body-temperature and it should be allowed to run out of the needle a sufficient length of time, before the latter is inserted, so that it becomes heated to the proper degree to enter the body, in most cases the interior of the connecting tube having chilled the solution during its course.

As for the treatment of shock by means of drugs, exclusive of normal salt solution, the authors have abandoned most if not all of the one-time honored remedies, especially strychnine and digitalin; the former, because it is found of little avail as a rapid and efficient means of producing increased blood pressure, the latter, because it requires altogether too long a time to act and also because of the uncertainty existing regarding the power of the individual preparations.

The authors have come to depend upon three drugs as sheet-anchors, so to speak. These are camphor, adrenalin chloride, and morphine. The first, being a rapidly diffusible cardiac stimulant, is used rather frequently where danger-signals in the form of suddenly impending collapse are encountered. In such a contingency the hypodermic administration of camphor—in the form of sterilized camphorated oil, 15 to 20 minims, and repeated if necessary—will produce satisfactory results. Care must be taken, however, not to give the administration of camphor too continuously, in order to avoid renal irritation; also careful asepsis must be observed, so as to prevent abscess formation.

In adrenalin chloride the surgeon possesses a means of raising the vascular tone which is almost equal to the value of morphine as an

anodyne. Adrenalin frequently has made operation possible in emergency surgery where without it the prevailing shock contra-indicated any interference, and where the patient would otherwise most probably have succumbed.

In regard to the use of morphine with its rapid and wonderful power as an anodyne, the authors claim that it is not nearly as frequently resorted to as should be. Doubtless many a life has been saved and many a one lost just because the physician either gave too much or too little morphine to tide his patient over the shock and nervous excitement.

It is not because one man toils with his brain and another with his hands that the former is happier than the latter. His occupation has after all but little to do with a man's happiness; it is the spirit in which his work is conducted, whatever the work may be, that produces happiness and imparts dignity to the calling.—H. R. Sharman.

CRIME WAVES VERSUS WAR

Every winter is prolific of crimes of violence in Chicago, but the present season seems to be unusually so. Every newspaper one picks up is filled copiously with accounts of holdups, robberies, burglaries, car-barn bandits, automobile gangs, and murders; every magazine contributes its quota of mysterious Raffles and other attractive criminals. It is certain that, were there no demand for such pernicious stuff, reading-matter of this kind would not continue to occupy so prominent a place, and so sensational in style.

At first thought one is tempted to associate this unusual prevalence of crimes of violence with the increased cost of living, the growing acuteness of the struggle for existence, the Oslerism that turns the middle-aged worker out to starve while his place is filled by the young and strong, the growing army of those forced to the wall by the crushing competition of the trusts, or by the several other factors that might be named. But to all such hypotheses comes an extinguisher in the fact that the vast majority of these outbreaks are the work of youths—boys of from fifteen to twenty years of age, and for the most part those who have not the excuse of need and want.

However, for every evil an adequate remedy can be found, and the search for the one under consideration can be successful only when prosecuted along natural, evolutional lines.

The source of the trouble is Youth.

The remedy for the trouble is War.

Half a century ago the country was in the midst of our Civil War—that stupendous struggle between the two factions of the populace into which the western Anglo-Saxon had rent himself. Millions of men rushed to the conflict. The most momentous questions ever presented to the nation for solution were subjected to the trial of arms. A century of development resulted from those four years of hotbed stimulation, and the new American rapidly grew to manhood. No longer could he remain isolated and apart from the world's affairs. A new knight took his seat at the round-table, fully armed and ready for knightly emprise. Whatever might be his prowess, the world had him to reckon with henceforth.

But who were the men who fought that battle? Sturdy men of mature age, fully aware of the momentous character of the struggle, conscious of its bearing upon the future, with minds that had considered and digested the meaning of the Union, slavery, sectional and class rule, and like problems?

No, not so! Of the millions of men who made up the Northern armies, more than 90 percent were youths under age, most of them under 18 years. They went into the armies primarily from their instinctive love of a fight. It was a harking back to the earlier day, when youth and its keenness, its force and guile made one the victor in the struggles of Cave-man with Tree-nester.

The spirit that animated the youth of the sixties resides in the youth of the twentieth century. Man is primarily a fighter. In early youth he fights with nature's first weapons, and with the distinct object of possessing himself of visible and desirable property. A little later he fights for his mate. Growing to maturity, he grows wary; he recognizes the fact and need of laws, and regulates his warfare to the increasing complexity of the conditions—the rules of the war as he finds it. Should his country become embroiled with another and the appeal to arms be made, he is surely patriotic, but he "lets George do it"; he waits while the younger men press to the front.

When the Spanish war broke out Chicago saw her youth rush in crowds to the recruiting offices, begging for the chance to fight. When the city's quota was filled they struggled for the privilege of going to represent other parts of the country where there were too few men to afford a surplus.

Throw open the gates of Janus' temple today, and these restless youths would like-

wise flock to the camps. Let one side refuse them, and they would apply to the other.

"War is hell," said Sherman. Yes, truly. It is grief, desolation, death; it is ruin, demoralization, a return to the brute.

Granted, fully. You can say nothing so bad about war that we will not agree with it, without argument or palliation.

Even so, yet—give us war rather than robbery; the soldier always rather than the bandit.

DR. BUTLER AT MUDLAVIA

The announcement is made that Dr. Geo. F. Butler has accepted full charge of the sanitarium at Mudlavia, Indiana. One hardly knows which to congratulate the most, the institution or Dr. Butler—the institution upon having secured the services of so able and distinguished a man, or Dr. Butler upon having acquired such a splendid outlet for the exercise of those peculiar powers which those who know him know that he possesses in such richness.

Concerning Dr. Butler himself it is altogether superfluous to say anything here. He has been know to the readers of this journal for many years, and they have not only learned long ago to respect his sterling qualities, and to admire his broad abilities, but have come to esteem him personally, and even to love him, for his genial human philosophy, which he has poured out unstintingly all his life upon all who have come in contact with him or within the sound of his voice. Nor is his fame by any means confined to this, or any other family group. He is a man of deservedly national reputation, and his association with Mudlavia will lend equally wide distinction to that institut on

Simultaneously with the announcementof. Dr. Butler's appointment comes the intimation that Mudlavia is making ready for a campaign of enlargement and extension. Just what detailed form this expansion is to take does not yet appear, but we understand that the ultimate purpose is to make of Mudlavia a big national sanitarium and resort which will force the great health resorts of Europe—the Carlsbads and the Badens—to look to their laurels.

That this ambitious end will be attained no one will for a moment doubt who knows what the name of Kramer stands for. He is a man who does things; and he has but to make up his mind to an enterprise, no matter how gigantic, and it is as good as accomplished. And in this particular case it is gratifying to see that he has taken the high ground. Not only is Mudlavia to be expanded in scope and dimensions, but it is to maintain a dignified ethical character. With this end in view, its capable manager could not have done a wiser or better thing than to secure a man like Dr. Butler for the control of its medical department. His administration will command the confidence of profession and public alike, and insure the growth of the institution along sound progressive lines.

Success to the new Mudlavia! Success to our Dr Butler! More power to his elbow!

The great error that has ruined thousands of otherwise able men is the belief that certain inconsequential things are beneath their notice.

GOING TO YURRUP?

The doctor who has long wished to take a fling at Europe, but lacked the means, may be glad to know that the French Line has placed in service a number of steamers that carry only what in other lines are termed second-class passengers. A similar single-class service is operated by the Leyden Line from Boston and the Allan Line from Toronto.

Under this plan, the rates across the ocean one way are only from $55 to $70, and those paying these prices have the run of the ship without any supercilious newrich scanning them disdainfully from the aristocratic precincts whence the secondrater is barred. The cooking is excellent, lunches being of four courses and dinners of five; the cabins are clean and well ventilated; the fellow travelers are unusually desirable, since the passengers largely are doctors and teachers.

Really, even millionaires, like ourselves, do not care to buy the whole ship; we can get along without caviare and unseasonable fruit from hothouses; we can sleep as well in an iron bed as in one of rare woods; we are surrounded by so much gilding and gorgeosity at home that we like to be without it at sea—and between purse-proud, vulgar trust fourth-raters and school-teachers we prefer the latter. They usually are pretty and always intelligent, which is more than can be said of the others, in many instances.

That's the way we are going. But don't plan to sail in June, for the berths are all taken for the summer, or soon will be, the way they are being preempted. If you are planning to go, make arrangements some months in advance—and when you come home, tell us all about it.

Leading Articles

The Seamy Side of Medical Life

Or Practicing Medicine Under Difficulties

By CHARLES STUART MOODY, Sandpoint, Idaho
Captain, Medical Corps, National Guards of Idaho

EDITORIAL NOTE.—We are pleased to be able to present another of Dr. Moody's inimitable records of personal experience in the rough field of Rocky Mountain practice. We hope to be able to print other papers from his pen (or rather typewriter!) in the near future.

JUST the other day I was running over the back numbers of THE AMERICAN JOURNAL OF CLINICAL MEDICINE (a bad habit of mine on rainy days), seeking inspiration, when I came across several halftone presentiments of doctors sitting in their automobiles, with expressions of the greatest contentment on their faces. And why should they not show contentment? The man who can crank up his buzz-wagon and sail out to his calls in the morning is certainly to be envied. But, law me, these doctors are not envious beings. Now, take me for illustration, I hold forth here where autos, unless they could be made to climb a tree, are perfectly useless. Out here we have various means of getting over the ground, varying all the way from personal application of the pedal extremities to "slipping" the conductor of a freight-train.

Doubtless many of my professional brethren whose lines are cast on paved streets or turnpiked roads often bewail their hard lot and wonder why the Fates made them physicians (by the way, these same fellows would not be anything but doctors if they had the chance) and swear by all the gods that, if something were to offer so that they could keep Mollie and the babies from starvation, they would quit the medical game.

For the benefit of these fellows with a grouch I'm going to rip a few leaves out of my personal case-book and submit them as a sample of how the "other side" lives.

Across the Lake in a Storm

Case No. 1. It had been raining for three weeks steady; it rained October out and November in, then bade fair to keep it up until December came in line. Along about the ides of November things took a change and it began to snow, then it froze—and the wind blew. A northeaster came sweeping down the lake from somewhere over in Manitoba and made Spitzbergen appear like the Florida orange-belt. In the midst of this blizzard came a man from across the lake in a rowboat summoning me to attend a sick lady fifteen miles away. Experienced physicians need not be told that it was night. The physician's duty is to relieve human suffering at whatever cost of time and exposure. In fifteen minutes after the courier arrived, he and I were in the Water Fay, my motorboat, beating up the lake in the teeth of the storm. It was dark.

The darkness of Egypt, that of the proverbial "stack of black cats," was as Broadway illuminated to the darkness of that night. Fortunately I knew the compass points, and the little vessel plowed through the foam-capped waves, which froze as they dashed over the bows. In a few minutes the brow was covered with ice, ice coated the storm-hood and my clothing as I stood at the wheel. The motor, protected by heavy canvas, hummed along merrily and we lessened the distance with every passing minute. We reached the point on the lake nearest where my patient lived, but there was no landing. The waves dashed against the shore, spent their force and surged back. There was nothing to do but to beach the boat. I turned on all the power possible and held straight for the bank. As the vessel struck

ground I shut off the motor, and the Water Fay lay high and dry on the shore.

Jumping out, my guide lighted a "Palouser" and we started upon our journey through the dense timber and two feet of loose snow toward the distant settler's cabin where my patient lay. That trip it seemed would never come to an end. Hour after hour we trudged through those big pines, our only companion the howling, cutting storm. I hailed with delight the faint glimmer of a light through the darkness—at last we had reached our destination! . . . At the break of dawn I made my way back to the Water Fay and, aided by my guide of the night, got the boat started on the return trip. The storm had abated and the middle of the forenoon found me back at home, a little tired, may be, but happy in the thought that I had been the means of relieving someone who was suffering.

A Winter Trip Into the Mountains

Case No. 2. Not so many weeks ago I was sitting in my office, hoping that no ailing mortal might demand my services, for it was raining—a cold, driving rain. The day wore on and the dusk of evening settled down. I was about ready to close the office and go home when the chief of police made his appearance.

"Doctor," he said, "a man has been accidentally shot on 'Baldy' and they want me to bring a physician and come at once."

What would you have done, brother physician? Exactly what I did, no doubt. I got together my surgical kit, loaded myself into a hack, along with the officer and another man, and we were off in the pitch-black night. We drove to the end of the wagon-road, some six miles out of town, then we had eleven miles through the deep timber over a rough mountain-trail, then three miles to the place where the wounded man had been brought by his companion. It had been snowing in the higher mountains and the last five miles of the trip was through six inches of new-fallen snow. We followed the tracks made by the messenger on his journey out; but they soon were obliterated by the falling snow, when we had to be guided solely by our knowledge of the country. It was long past midnight when we arrived at our destination. Our arduous journey was in vain. The wounded man was past the help of any human physician. A 30/30 soft-nose bullet had penetrated the calf of the leg from behind, literally tearing the leg off.

Besides being a lesson in carelessness in the handling of firearms, this experience furnished a great lesson in the shocking power of the modern high-power rifle. Had that man suffered a like injury from a railway train, he probably would be alive today. He had not lost any great quantity of blood, still, indications showed that he had been dead at least six hours, which would be less than two hours after the messenger left him. The man apparently died simply from the shock induced by the missile.

Making Professional Visits by Freight-Train

Case No. 3. Along the line of the Great Northern Railroad there are a number of small villages, tributary to our town, where passenger-trains do not stop. The accommodation-train, making one trip daily each way, gathers up the passengers from these little hamlets; but irrespective of how urgent a case may be the fast trains refuse to tarry. This makes it rather inconvenient for the practising physician, and this the more so, perhaps, since a great many of the conductors on the freight-trains refuse to carry passengers, not excepting physicians. It chanced a number of weeks ago that I had occasion to visit one of the little places up the line some fifty miles distant. I managed to make my peace with the conductor of an east-bound freight and duly reached my destination. My errand ended, I walked over to the station and waited for the west-bound freight-train that would pass through at about dark. When the train stopped for orders, I told the conductor my wishes.

"You can't ride with me," was the man's ungracious reply.

"But, my dear sir, it is absolutely necessary that I get back to the city tonight."

"Ain't no law against you walking the track," he replied, and turned away.

"Then you refuse to allow me to ride?"

"I'd refuse to let Jim Hill, himself, to ride. I wouldn't carry my grandmother's picture on this train."

I was not either Jim Hill or the conductor's grandmother's picture; all the same, I resolved to ride that freight-train home if I had to hang to the rods. So, when the train pulled out I swung on to the rear of the caboose and sat down. It was only a few minutes when the conductor came out. He glared at me, then yelled furiously:

"What in hell are you doin' on this train? Didn't I tell you that I wouldn't carry you?"

"Correct the first guess. You are not carrying me, the train is doing the carrying."

"Well, you get off at the next stop, that's all."

"Sure thing. I know you are under strict orders and I wouldn't have you disobey them for anything."

When the train pulled up at the next stop I got off, walked down the track several yards and waited. When the caboose came along I dexterously climbed on board again and squatted down on the rear platform as before. When that conductor came out his face was a picture to behold—not a very handsome picture, to be sure, but, all the same, it was a picture. He was a thin, spare man of Hibernian extraction, so I did not fear that he would have a stroke of apoplexy, but I did seriously fear an attack of hydrophobia; in truth, he frothed at the mouth, gnashed his teeth and used a large amount of unprintable language.

"I thought I told you that you couldn't ride on this train?" he fairly screamed.

"Are you still laboring under that same delusion?" I asked. "It is true that you stated that I could not ride, still it is a physical fact that I am riding."

"Well, you get off and stay off, or else I'll kick you off."

"Do you happen to be familiar with the law of this state?" I asked him sweetly.

"No, and I don't give a d—n for the law."

"My friend, put your threat of a few moments ago into execution, and I shall deem it my duty to instruct you in the law, and in the meantime the Great Northern will be looking around for a conductor to fill your position."

"Huh, get me fired, will you?"

"Not a bit. I'll get you arrested, and that sheriff down in my town will keep you in jail so long that when you get back on the road they will be running flying machines over it."

After some more parley we compromised. He, on his part, agreed to allow me to ride, while I, on my part, agreed to ride. I presented him with a Havana and promised to tell Jim Hill, the next time I saw him, that that conductor deserved a medal for devotion to duty.

Another Railroad Episode

Case No. 4. Singularly, the incident just related brings up the remembrance of another one that almost had escaped my mind. Some years ago I got a message from up the Great Northern Railroad line that a lying-in woman was having uterine hemorrhage. No trains were due that would halt at the shingle-mill where the woman lived, and, so, I secured a track-velocipede and started out to make the trip. One kind of these contraptions are worked both by foot- and hand-power, and they are called "speeders." Working a "speeder" of said description is one of the labors of Hercules brought down to date. I was bending my Gothic back to the task and scooting up the track at twenty miles an hour when, chancing to look ahead, I saw the Jap section crew under command of an Irish boss. The section foreman also happened to look up, saw me coming, and forthwith ordered one of his men to throw a tie across the track. I rode up to the tie, lifted my "speeder" off the track, and started to carry it around the obstruction, when the fellow halted me.

"Whare ye goin' wid thot speeder? he demanded.

"To Colburn," I replied.

"Don't ye know it's aginst ordhers?"

"I can't help that. There is a woman there in serious danger and I am in a hurry."

"I've got me ordhers t' break enny speeder on th' tracks."

"Let me advise you not to attempt to break this one," was my retort.

"Sato," he called to one of the Japanese workmen, "take thot speeder an' break it up."

The Asiatic seized a spike maul and started for my vehicle.

"Sato, look here," said I. "How much do you get working for the Great Northern?"

"One dollar and sixty cents a day," he answered.

"That's more wages than you'll get in hell if you touch that machine, for just so sure as you put a hand on it I am going to shoot you right where it will let a big streak of daylight through you."

Sato stopped, sat his hammer down and looked at the boss.

"Now, Mr. Section Boss, you have done your duty to the Company. You have tried to stop me, and I have refused to be stopped. I'm going to Colburn on this "speeder," and when I come back this way, if you feel that your dignity has been hurt, you may take this machine and make kindling wood out of it. But the dictates of humanity demand that I defy your authority just now—and that's exactly what I do. You take that tie off the track and let me pass, and be quick about it! or I'll not be answerable for the consequences."

The tie came off that track with neatness and despatch. I mounted my one-man car

and hummed on up the track. The section crew were not there upon my return.

Hitting the Trail on Horseback

Case No. 5. An endurance test, and one that I should not care to repeat. During my sojourn on the Nez Percés Indian Reservation a messenger came in one day, his horse covered with foam, bearing the information that a particular friend of mine, who was working a prospect deep in the heart of the Bitter Root Mountains, had been struck by a missed shot, which had blown out both of his eyes. I questioned the messenger as to what had been done and the condition of the patient, and learned that he could see a glimmer of light, and also that they had put hot applications over his eyes.

I made a hasty calculation. The messenger had been nearly thirty hours in coming, and the way down hill. By hard riding, I might hope to reach my friend in thirty-six hours, which, added to the thirty hours, would make sixty-six hours after the accident before medical aid could reach him—sufficient time, together with the hot fomentations, to destroy the sight by inflammation.

To saddle my riding-horse, one of the best in the country, and "hit" the trail was the work on less than ten minutes. The wagon-road ended ten miles from home, and I plunged into the dense timber, following a dim mountain-trail. Fortunately I knew every trail in the country and was not delayed on that account. All night I held on, urging my mount whenever possible, walking at times over the steep hills to rest him. Day dawned, noon came, the sun rolled down the west, and night fell once more. Poor old "Buck" was famished, but he held bravely on, staggering as he walked. I reeled in the saddle from fatigue and loss of sleep. It was dawn again when I reached the bedside of my friend in the little prospector's cabin.

My worst fears had been realized. I removed the bandages—his eyes were sightless. Lying on a bench, his head on a folded blanket, the brave fellow submitted to my removing the particles of stone that were imbedded in the eyeballs, without uttering a murmur. For two long hours I worked by the dim light of an oil-lamp, what, though my hands trembled and my sight was dim from loss of sleep. Ah me! what sad things we physicians do encounter! I had counted the journey easily made had I been able to reclaim that vision, but it was not to be.

I might go on and fill pages with experiences in the far West, hardships endured in the cause of humanity, incidents in which mingle the grave and the gay, but enough has been told to cause the physician situated in a pleasant environment to take pause whenever he feels disposed to bewail his hard lot. You of the East and Middle West are not familiar with the term "hard lot," you do not know its meaning.

What Was It?

A Lesson in Psychotherapy

By SHELDON LEAVITT, M. D., Chicago, Illinois

"CAN you cure that?" This was the question shot at me by a blunt fellow who came into my office one day, after he had bared his chest for my inspection.

It was a bad-looking sore, surely enough, and had been pronounced an epithelial cancer, he told me, by more than one physician of experience and standing.

I looked at him with interest. He was a man of spare build, and his face exhibited some pallor; but there was something about him which gave the impression that he had unusual powers of resistance. The lymphatics of the axilla were hard and swollen.

My impulse was to give him a negative answer; but I bargained with him.

"Do you believe I can cure it?" I inquired.

The smile which came to his countenance was at first incredulous. For a moment he was silent.

"Well," at last he said, with an earnest drawl, "I've come a long way to see you, and I reckon I must have had some faith or I'd stayed at home. I was told that you could cure most anything, so I decided to go. You look like an honest man, and you haven't said you can't cure me, so I'm going to believe that you can."

"Well, then, my friend," I spoke back, "your faith matches mine; and I've found when faith meets faith there usually is something doing. I can't say from such an

examination whether that is cancer or not, and I don't much care. I set no limits to the healing-energy when it can be exercised under the best conditions. The cure depends as much on you as on me. If by any means I can so jar your organism as to set all your energies moving in a right direction I shall be able to cure you."

We looked at one another for some moments without speaking. Then I said in tense tones as I looked him steadily in the eye:

"I shall expect you to get well."

I applied an antiseptic dressing, but gave no medicines. Every day, after making him comfortable in my office-chair, I gave him, without hypnosis, strong suggestions of returning health.

During the first week or ten days I discovered no evidence of improvement, but in spite of this the patient grew in his confidence of recovery.

Then the margins of the sore began to grow pink; the surface became less moist; healthy granulations came; and six weeks later the thing had healed. The glandular enlargements subsided and the general health seemed improved.

Two years later there had been no recurrence.

What was it? What did it?

Solanine Versus The Bromides

Especially in the Therapy of Epilepsy

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois

Associate Professor of Neurology, Chicago College of Medicine and Surgery, the Medical Department of Valparaiso University

BURNING down a house to roast a pig is not a procedure that appeals to the mental make-up of the Anglo-Saxon, however it may commend itself to the inscrutable mind of the Oriental. I can conceive of exceptional circumstances under which one might, figuratively at least, burn down his house—not to roast a pig, I cannot imagine any civilized man wanting roast pig that badly—but, let us say, as Palissey the potter did, to conserve a rare artistic quality of china. But as a routine procedure, even for such a high purpose, I repeat it does not commend itself to the shrewd, practical, sensible, economic mind of the westerner.

It is a poor rule that will not work both ways. The rational mind looks with equal disfavor upon a method for putting out a small blaze, or damping a too cantankerous fire, which involves destruction of the entire house. Here, let us say, is a furnace whose flues have a tendency to "spark." Once in a while the chimney does actually catch fire. shoots fireworks for half an hour, and creates a small-sized panic among the household and neighbors. An expert is consulted. He examines the premises; asks numerous questions; perhaps is fortunate enough to see one of the eruptions in progress; and looks wise. Says he knows something that will avoid all future trouble of the kind. So he goes to work and instals, at great labor and expense, a cumbersome system of sprinklers throughout the house, which he keeps playing constantly, so as to steadily drench the walls and roof and floors, and even to pour a spray of water upon the furnace itself. The furnace smoulders, of course, and presently goes out altogether; the inmates become sick and are obliged to move out; presently the walls and floors begin to moulder and rot under the continuous seeping of the water; and at last the whole house becomes a mouldering, decaying ruin. But the expert "points with pride" to the fact that, since he installed his system, there has been no more sparking of the flues, no more outburst from the chimney.

What would be the sane man's criticism upon such a course?

What the Bromides Really Do

Yet that is precisely what most of us have been doing for a great many years with the bromides in medicine. Someone discovered, accidentally or otherwise, I cannot determine which, that the bromides would damp the fires of the nervous system, prevent "sparking" of the neurons, and head off explosions in the cortex. In order to do so, it was necessary to saturate the body with enormous doses of a salt whose chemical potential is about the highest in the materia medica, and whose definitely determined properties are

those of a protoplasm-destroyer (especially of the cortical cells), a muscle-paralyzant, a heart-depressant, and a general function-impairer. And so, under its steeping, the body-furnaces smouldered and all but went out; all the vital forces became sick to the vanishing point; and at last the very walls and roof decayed and rotted away.

But the bromide therapist pointed triumphantly to the fact that his treatment stopped the nerve-sparking and suppressed the cortical explosions! And most of us have been following his peculiar plan all these years, with no other excuse than that the sparking must be stopped, and the explosions must be headed off, and we had nothing better to work with.

Well, perhaps that *was* an excuse in the old days. Almost any therapeutic expedient might justify itself upon the plea that the necessity is urgent and that there is nothing better available; although in most cases the bromides do more harm than good, and therefore ought to be denied even this justification. However, let it be admitted that the necessity *does* frequently arise for this sort of therapy. There *is* a group of conditions, covering a rather wide range of functional manifestations, in which the cerebral cortex is the seat of muscular spasms, either as the originating center, or as the reflex arc. Sometimes the irritating stimulus is an anemia; sometimes a nerve-loading; sometimes an inexplicable biologic phenomenon. Often it is a perfectly normal stimulus acting upon an abnormally irritable brain. But always, in this group of conditions, it is a process which is, for the time being at all events, unreachable through the peripheries; and the only way to control the spasms is to sedate the cortex so that it is no longer hypersusceptible to irritation.

The bromides hold out a tempting means of accomplishing just this kind of sedation—and for many years they have offered practically the only effective means. And so, in spite of their heavy mineral potential, their enormous dosage, and their destructive action upon the tissues, we have used them, in default of anything better. But this plea is no longer vaild. There is at hand a therapeutic agent which yields all of the desirable effects of the bromides, with none of their objectionable properties. Indeed, it has been at our doors these many years, and we failed to recognize it until the alkaloidal preparation of its active principle drew special attention to its specific pharmacology. I mean solanine, which any enquiring mind may know is an alkaloid-glucoside commonly derived from the young shoots of the potato.

The Use of Solanum, and the Advantages of Solanine

It is but fair to note that our friends the Eclectics have had solanum in their materia medica for several years. As long ago as 1837 Louis Valentine was using it in non-traumatic tetanus. Its modern status in their armamentarium, however, dates from about 1890. We are told that "success with it has been recorded in chorea, puerperal eclampsia, infantile and hysterical convulsions, and epilepsy." It never seems to have come into general use, and several Eclectics to whom I have spoken about it did not even know its name, and those who did know its name were obliged to look it up in the book to ascertain its pharmacology. The pharmacopeial description closes with the significant words "The drug needs further investigation."

Well, it has had further investigation, in the shape of the isolated, concentrated active principle; investigation, both experimental and clinical; and solanine is now ready to take its place among the major therapeutic agents, and to replace, with its beneficent qualities, the baneful and badly abused bromides. It has distinctive physical advantages over the bromides, to begin with. It is an organic, vegetable alkaloid, instead of a heavy mineral; it has a low chemical potential, and therefore does not upset chemical and metabolic equilibrium in the tissues; it exercises a normal pharmacological action, being in the nature of a proximate principle; and its dosage is fractional, since it possesses one hundred times the therapeutic potency of bromide of potassium. All of which make it an infinitely preferable drug to the bromides for long continued administration.

Therapeutically, as already stated, it yields all the good results of the bromides, with none of their pernicious effects. It is a perfect cerebral sedative, quieting the irritable brain without in any wise seeping or tearing down the cortical cells. Indeed, I am not sure that it does not help build up brain tissue, both positively and negatively, i. e. by actual organic synthesis as well as by relieving the cells of functional exhaustion. At all events, I know that under its long-continued administration, together with its sedative effect, the patient becomes more capable of genuine mental effort.

It further possesses the valuable merit of definite selective action, making its therapeu-

tic indication equally clear and certain. It is, as I have said, definitely indicated in all conditions *where the cerebral cortex is the seat of muscular spasms*, wherever these spasms may happen to manifest themselves. Hence it is a sovereign remedy in epilepsy, infantile palsies, pertussis, spasmodic asthma, neuralgia, myalgia, cramping of the muscles of the extremities, and dysmenorrhea, where these latter are due to cerebral tension. And, contrariwise, these are the only conditions in which its benefits must be looked for—I do not mean the specific troubles I have named, but the conditions which depend upon cerebral irritability to stimulus.

Solanine is Not a "Panacea"

Nor do I mean to assert that solanine *cures* these conditions, any more than a splint unites a fracture or heals a diseased joint. The splint sets the bone or the joint at functional rest; then if it be amenable to reparative processes, these get their chance and do their restorative work. Solanine is a cerebral splint; a mild one, of course, for one cannot completely immobilize the brain, as one can a joint. Under its benign, resting influence, functional adjustment takes place; and presently the splint can be removed. Even in those cases where recovery from the underlying condition is impossible, a grateful state of quiet can be maintained. In many cases of infantile palsy and cystic brain, for example, I have seen the restlessness and the athetosis perfectly controlled, to the great comfort of both patient and attendants, by routine administration of solanine, without the slightest appearance of stupor or dulness such as attends the bromide therapy.

Doubtless the most typical of the conditions calling for this form of therapy is epilepsy, in which bromides have so long been used and abused. The treatment of this condition with Solanine, conjoined with verbenin, with lecithin intercurrently, is so far superior to the bromide therapy as to admit of no comparison. Under this treatment, supplemented, of course, with proper care of metabolism and elimination, the percentage of cures of non-traumatic epilepsy easily reaches fifty percent—by which I mean that, at the end of a period varying from six months to a year, the remedies may be withdrawn without a return of the seizures, and during the administration the patient's mental state is markedly cleared and his general condition improved. In practically all cases the intervals between the seizures are progressively lengthened, and mentality correspondingly brightened.

The Method of Giving Solanine

The method of giving solanine is simple. Saturation to the desired point should be secured as quickly as possible by comparatively full doses of 1-12 to 1-6 grain. Thereafter the sedative effect should be maintained by smaller doses of one or two 1-64-grain granules three times a day. It may be given with perfect safety to the youngest child. The lethal dose has not been definitely determined, but is probably around 8 or 10 grains—a quantity that is not likely to be administered by any physicians under any circumstances.

IT IS not conducive to the best interests of the profession or laity, to allow the use of medicines to be neglected or their rightful place in therapy usurped by less efficient means. In truth, I am quite optimistic concerning the outlook; even though perhaps the use of drugs in the treatment of disease has decreased during the last decade. I am hopeful that in the probability instead of losing confidence in the administration of drugs, the profession as a unit has more accurately determined the true capacity in which medicines should be utilized as curative and palliative measures.—Dr. O. B. Hall, Journal Missouri State Medical Association.

Vaccine and Vaccination

By ARTHUR M. SLEE, Swiftwater, Pennsylvania
Associate Director of the Slee Laboratories

EDITORIAL NOTE.—The readers of CLINICAL MEDICINE *will remember Mr. Slee's interesting paper upon "The Production of Diphtheria Antitoxin," which appeared in the January issue. We are sure that every one who read that article will desire to read this paper, which gives much that is of value regarding vaccine and vaccination—many facts not known to every physician.*

SMALLPOX, or more properly variola, for hundreds of years was one of the hardest and most terrible problems that had ever confronted the medical profession. Until up to the beginning of the nineteenth century this scourge raged unchecked throughout almost the entire world.

Brief Historical Data

It is practically certain that the disease came originally from the far East. Records have been found of its occurrence in China many centuries previous to the Christian era. From China, it presumably spread throughout Asia, India, Africa, and southern Europe. Doubtless the crusades were instrumental in its distribution through the various European countries, for the knowledge that pilgrimages, explorations, and wars are most excellent media for the transmission of infectious diseases has long been common property.

The Scandinavian explorers carried the pest to Iceland, where it destroyed a colony which they had founded there. To the western hemisphere the contagion was carried by the earliest Spaniards, creating terrible havoc among the native Indians. One writer even goes so far as to advance the opinion that variola was responsible in a greater measure for the degradation of that race than either firearms or "fire-water." Be that as it may, it continued to spread like an underground fire, at times remaining still, but no man knew where or when it would break out again with renewed vigor.

To control this plague, seemed beyond human power, and the physicians of those early days were not long in discovering the inefficiency of all known drugs in combating it. Smallpox patients were tortured with all kinds of hot applications and nauseous potions, but they continued to die by thousands. The saying that "from love and smallpox but few escape" came to be almost general, while those whom it did not kill it left most horribly disfigured for life.

The term variola had for many years been promiscuously applied to all sorts of eruptive diseases, but was established, as the scientific name for what we now know as smallpox, in the writings of Constantinus Africanus, a physician of the eleventh century. The name smallpox was later applied to distinguish it from syphilis, which made its appearance on European soil at about the middle of the fifteenth century and was known as great pox or black pox.

It was soon discovered that the virus found in the eruptions on the body was the active agent of transmission, and that persons were easily infected from clothing or anything that had come in contact with or even only been in the immediate vicinity of a sufferer. Later, infection was found to be carried in the air for several hundred yards. This knowledge led up to the segregation of the victims, the destruction of clothing, bedding, and other infected material; and in this manner the spread of the disease was in all probability reduced to some extent.

The fact that persons who had recovered from smallpox rarely contracted it the second time soon became manifest, while in line with this observation there came early in the eighteenth century a slight ray of hope from far India; for it was being reported that natives of that country were wont to obtain pus from victims having a very mild attack of the disease and with this virus inoculated themselves and the children. Such a procedure would usually result in a mild attack similar to that of the one from whom the virus had been obtained; future immunity of course going hand in hand with recovery. This method of immunization, however, was entirely too dangerous to be countenanced in Europe, since the inoculation all too often resulted in extremely severe and even fatal attacks.

At last, in 1792, we come to Jenner's great discovery. Edward Jenner, an English physician, like many others, had given considerable

time to a careful study of variola. He noticed that cattle were subject to a disease, known as cow-pox, very similar to smallpox, although much milder in form and very seldom, if ever, causing death; the eruptions appearing principally on the ventral aspect of the body.

Following up this clue, Jenner found that various people employed about cattle with this infection acquired from them like sores on their hands and faces where the skin had been broken, and that these pustules resembled very much the vesicles of human smallpox. These infections were found to cause a certain amount of inconvenience, such as swelling, soreness, and rise of temperature, while, strangely enough, these attacks very seldom were repeated until at least several years had elapsed, and, further, such persons never seemed to acquire smallpox. Thereupon deliberately inoculating a number of persons with this virus of "cow-pox," Jenner found that he could produce an immunity to smallpox of several years' duration.

The causative organism of smallpox remains unknown, but undoubtedly it is identical with that of cow-pox; the latter, having been passed through many cattle, has lost, like the bacillus of bovine tuberculosis, much of its virulence for man. A vast amount of work has been done upon the subject and various parasites, both of bacterial and protozoan nature have been "discovered," but conclusive, proof has never been forthcoming. The two principal theories as to its nature are, first, that it is a bacterium of ultramicroscopic size, thus escaping detection from even our most powerful microscopes; the other, that it is a protozoon, but it has never been isolated from among the many similar bodies present in the virus.

The fact remains, however, that the virus has conclusively been proven a specific prophylactic against smallpox, and that, moreover, though the knowledge of the causative organism would be extremely interesting from a scientific standpoint, the practical value of such knowledge is not great.

Immediately following Jenner's epochal discovery, vaccination was almost universally adopted by the cultural nations, and when it was found to be of real value it became compulsory in many countries, with the eventual result that now we no longer live in constant dread of devastating outbreaks. Although small epidemics still do occur from time to time among the nonimmunes of various communities, they are easily controlled; whereas, before the era of vaccination thousands of people succumbed yearly to this abhorrent disease. It is recorded that in France alone the annual mortality from smallpox ran as high as 30,000.

The early practice of vaccination was rather crude, and in the absence of our present knowledge of aseptic surgery at times some rather grave infections resulted, and sore arms were almost always the rule; for the old-time physician believed in a good and generous scarification, making it at least the size of a fifty-cent piece. (Fig. 6.) Nor was the practice confined to the physicians, many people practicing it as a sort of side-line. Besides, what is known as arm-to-arm vaccination was extremely common; that is, the operator merely used the scab from one person to inoculate another. In this manner naturally organisms of grave infectious diseases, such as syphilis, were occasionally conveyed with the virus. Fortunately this method has been obsolete for many years.

Considering the numerous disadvantages which the early advocates of vaccination had to face, it is not to be wondered at that the procedure aroused considerable opposition. However, with our present-day knowledge and the great care exercised in the production of all biologic products, vaccination is not any more dangerous now than the administration of a dose of quinine or other harmless drug. For all that, it still has its enemies, and these are constantly clamoring for the repeal of all laws making vaccination compulsory.

Commercial Production of Vaccine Virus

In this country, the manufacture of vaccine virus is carried out under the supervision of the United States Public Health Service, with all the care and precaution known to modern science; thus insuring a perfectly pure and absolutely reliable product.

In the production of vaccine virus it is essential that the greatest care be shown from one end of the process to the other. Buildings intended for this purpose must be erected with special attention to all details of sanitation.

The calves used in vaccine work are all selected from vigorous, healthy stock, and they receive the most careful attention and clinical supervision for some time prior to their being put to use. The stables are kept scrupulously clean, and all fixtures are simple and practical, in order that scrubbing may be not only easy but effective.

The fixtures of the operating room are, as a rule, as few and simple as those of the stable.

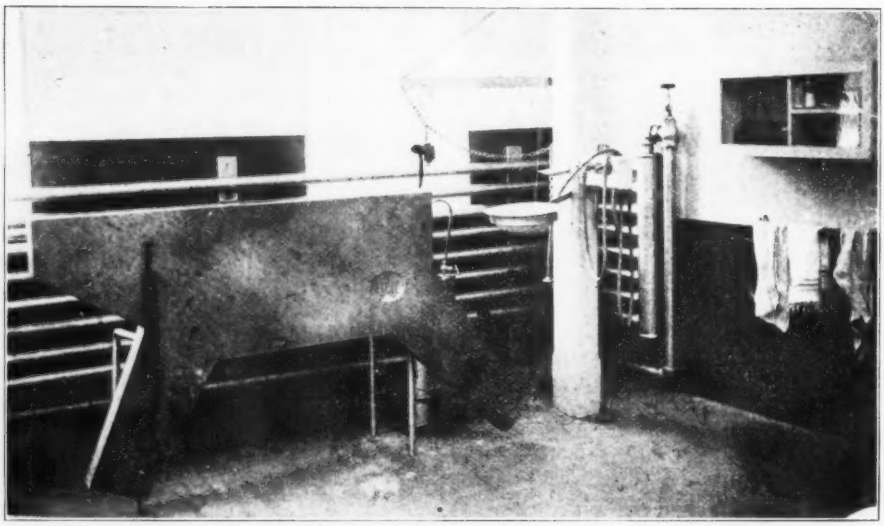

Fig. 1. The Slee hinged operating table, used in inoculating calves

One of the most convenient operating tables that I know of is a simple affair of wood covered entirely with zinc, and is hinged to a stationary iron stand in such a way that it may be tilted to one side, as is shown herewith in Figure 1.

The calf is led up beside this table, strapped into place, and the whole raised into position. The calf being thus placed in a convenient position, the hair is shaved from the entire abdomen and groin. This denuded surface is carefully scrubbed with warm water and an antiseptic soap, followed by several rinsings, to remove the soap which might perhaps interfere with the take. Crosshatched scarifications are then made with an instrument specially constructed for this purpose. Some operators, however, prefer to make long parallel incisions with a sharp spatula. Into these wounds a carefully selected virus is rubbed, and the animal is allowed to remain on the table until the virus is thoroughly dried.

The correct selection of the virus used for "seed" is extremely important. It is always taken from stock which has previously given a high percentage of "takes" and has a thoroughly established purity in respect to foreign microorganisms. Of the keeping up of the virulence of a strain of virus, I shall speak later.

During the incubation period, which extends over about six or seven days, the calves are kept with the greatest care. The heads are secured in stanchions so constructed that the animals may eat, lie down and get up again with perfect comfort and ease, but they cannot turn their heads around to lick the vaccinated area. In place of having bedding, they stand upon racks which may be removed and cleaned. In this way no straw or sawdust comes in contact with the lesion. Temperatures are taken twice daily.

When the pustules have reached the proper stage, that is, when the disease of vaccinia is at its height, the calf is again placed upon the operating table and killed. The vaccinated area is then carefully cleansed of all foreign matter and the vesicles are scraped off with a sharp spoon. This mass is known as the pulp, and it of course contains the virus. The serum has been found to be of little value and is not collected.

Next, the freshly gathered vaccine pulp is ground up into an emulsion with four times its amount of a solution of glycerin in an equal weight of water and passed through a very fine screen. Several rather elaborate pieces of machinery have been constructed for this grinding; still, the best and simplest method seems to be by means of the old-fashioned mortar and pestle.

Naturally, various foreign bacteria are always present in the virus, but the amount of glycerin added is sufficient to destroy many of them and to inhibit further growth of those remaining. Sterile virus may be obtained by the addition of one-half of one percent of pure carbolic acid, but for some reason or other this sterile virus is not as satisfactory as that which does not contain

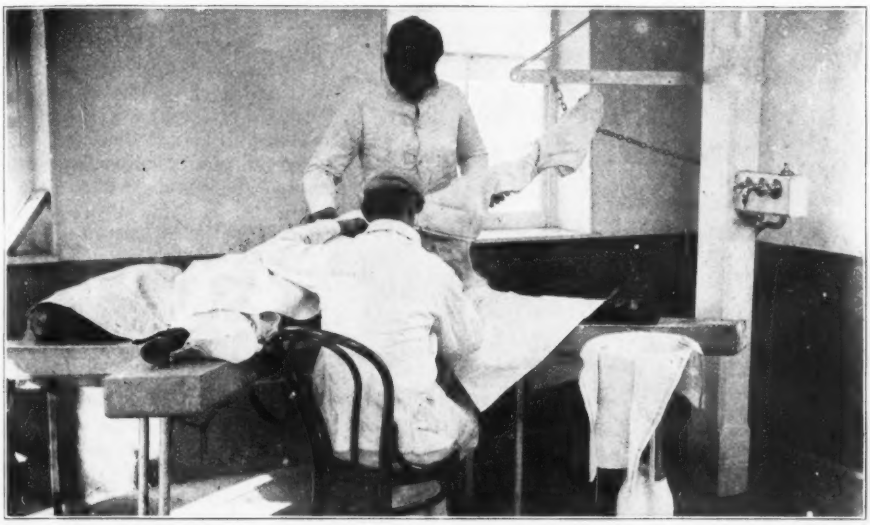

Fig. 2. Operating upon a calf. The small places seen on the abdomen are the sacrifications into which the virus is introduced

phenol. It does not retain its potency for a great length of time, and the percentage of typical "takes" is somewhat lowered.

Of course, no product is allowed to leave the laboratory without its safety having been ascertained. For this purpose, a most careful bacteriologic test is carried out. White mice are inoculated with a full human dose and placed under observation. Cultures are made in fermentation-tubes as well as in ordinary broth-tubes. Plating out on agar-agar and counting of colonies is always done.

Keeping up the virulence of a strain of virus is a rather difficult matter, and it has required many years of study and observation to settle upon an effective method. As with many microorganisms, the virulence of the specific agent of vaccinia for man is diminished on being passed consecutively through a number of animals. It is necessary, therefore, to introduce humanized virus from time to time. This is carried out in the following manner:

Virus from a vigorous and typical human take, after a careful bacteriological examination, is inoculated into a rabbit, and the virus from the rabbit in turn is used as fresh "seed" for a calf; often, though, being passed through a second calf before being employed to vaccinate human beings.

The Preservation of Vaccine

One of the earliest methods of putting up vaccine for the market was that of drying the lymph upon sharp ivory points and goose-quills. Unquestionably this was one of the most convenient methods ever devised so

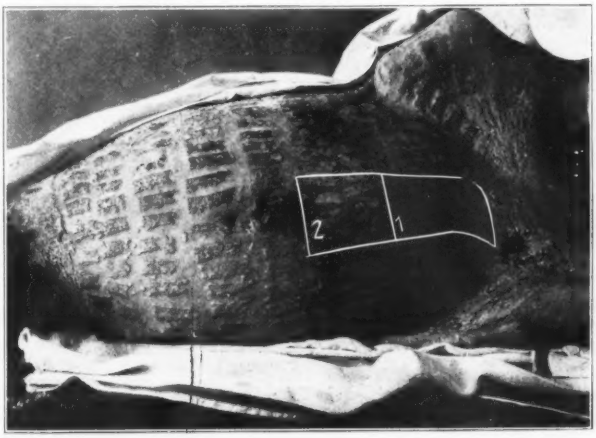

Fig. 3. Typical vaccinia in a calf. Area No. 1 has been painted with tincture of iodine and shows how strong an antiseptic the iodine is; there are only a few isolated vesicles in this patch.

Fig. 4. A good-sized typical vaccination just coming to scab

far as the physician was concerned. All that he had to do was to take this little point out of his snuff-box, pocket, or where not, scratch the baby's arm with it, rub the point over the sore a few times, and feel convinced that this served the purpose of dissolving the dried vaccine and infected the lesion. However, the method was found to be extremely unsatisfactory, because in a large percentage of cases a good typical "take" did not result. The use of dried vaccine has of late been prohibited by our laws.

The method of utilizing the glycerinized pulp as described above was first brought out in this country chiefly through the efforts of Surgeon General Geo. M. Sternberg, U. S. A., in the late 90's. For some time the socalled Sternberg bulb, introduced by Dr. Richard Slee, was used as a container for this product.

This bulb really consisted of a piece of capillary tubing blowed into a bulb at one end. The vaccine was drawn into the tube, but not as far as the bulb. The open end was then sealed in a blowpipe flame. In the package with each bulb was placed a sterile needle for scarification, and a small orange-wood slip with which to rub the virus in. When the physician wished to expel the contents, he broke off the sealed end of the tube and heated the bulb, the expansion of the air driving out the virus. This was a somewhat complicated but nevertheless scientifically correct method.

This Sternberg bulb has now been replaced by the capillary tube, which is in general use today. A small piece of glass tubing is used, of sufficient size to contain about two drops, which is all that is necessary for a successful inoculation. The virus is drawn into these tubes either by suction or by capillary attraction and the open ends are then readily sealed in a blowpipe flame. This tube, packed with its sterile needle, orange-wood slip, and small rubber bulb with which to expel the virus, all proper and in readiness for instant use, is

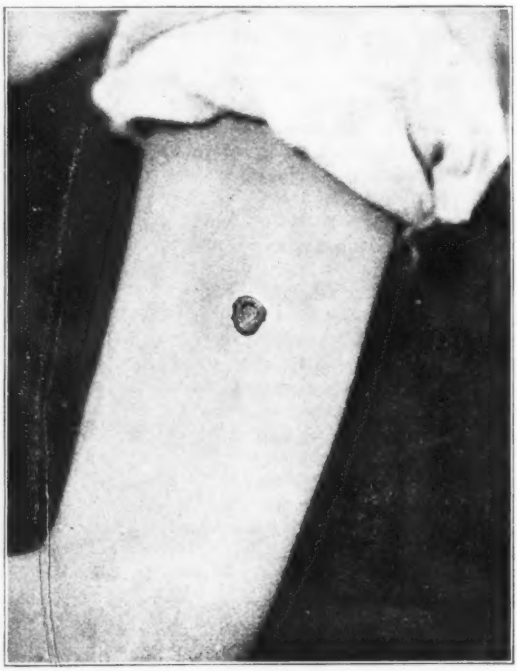

Fig. 5. Vaccination drying up and scabbing over toward the end of its course

the most thoroughly satisfactory package that has ever been offered to the medical profession.

Unfortunately, the keeping qualities of vaccine virus are not very good. It will retain its potency for about six months, but no manufacturer whom I know of cares to date his virus over four months, as it is rather uncertain just how long its virulence will be retained.

The one extremely important factor in the keeping of vaccine is a good refrigerator. The lowest of temperatures does not seem to injure it. It has even been submitted to liquid air without injury, while, if kept for a few weeks in a temperature of anywhere from 60° to 80° F., it deteriorates very rapidly. Probably the most satisfactory temperature for storage is as near 32° F. as can be obtained.

Impressing this latter fact upon druggists and physicians was a rather difficult matter, and I fear that even now in many drugstores the stock of vaccine virus may be found in a drawer under the counter instead of in an icebox. This point, apparently so small and insignificant and, yet, so easily remedied, beyond a doubt is responsible for the great majority of failures in securing a "take."

Fig. 6. The undesirable effect of too generous scarifications

Method of Using

The ideal virus to use is one which has aged slightly. The "take" is always less severe, with a marked decrease in the patient's general reaction, but none the less it is typical in its character and thoroughly protective against smallpox.

The inoculation should be carried out with the greatest care. In fact, it should be regarded as a surgical procedure, and, if physicians will regard it and treat it as such, many unpleasant after-results may be eliminated.

The site should be thoroughly cleansed with water and soap, dried, and rubbed with chloroform or ether; even alcohol is very good. This should be allowed to evaporate before the scarification is made. An excessively large wound is not desirable. It merely increases the inconvenience of the patient and does not insure any better result. A small spot not much larger than the head of a tack is really quite sufficient. The drawing of blood should be avoided. On to this scarification the virus may be expelled from the tube and rubbed in gently with the orange-wood slip designed for this purpose and allowed to dry before the sleeve is rolled down.

Tight bandages or shields of any kind should never, under any circumstances, be employed. It is necessary that the circulation be not constricted, and that the wound be open to the air. A piece of clean, light gauze pinned to the inside of the sleeve is sufficient protection.

A few years ago there was a great craze for using shields. Many very objectionable types were brought out, some of which were so constructed as entirely to exclude the air, and, hence, suppurating wounds and very sore arms often resulted. One of the least objectionable of these devices consists merely of a piece of wire so bent that it keeps the sleeve from rubbing against the vaccinated area. However, the straps necessary to retain it in position have been found to impair the circulation somewhat, and this is harmful. Of late years, so far as I know, the use of shields has practically been abolished.

The Materia Medica of Active-Principle Therapeutics

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE.—This is the fourth lecture in the series delivered by Dr. French before the students of the College of Physicians and Surgeons, Boston. The three first lectures have been reproduced in the January, February and March numbers of CLINICAL MEDICINE *of this year. We urge a careful reading of the entire series.*

I ONCE heard a physician say, after twenty years spent in the practice of medicine, that his faith in drugs grew less with each year of his practice. Incidentally I noticed that this same man used large amounts of powerful drugs, in spite of his skepticism. But what would you think of a mechanic who should tell you that the longer he worked at his trade, the less confidence he had in his tools? Either he uses poor tools, or he is an incompetent workman. If the fault is with his tools, let him get better ones. If the trouble is with him, let him serve his apprenticeship anew and learn to work with greater skill.

A competent workman ought to have the best tools obtainable, and he ought to become more skilled in their use and able to do better work with them the longer he uses them. The same thing is true with the doctor. It is a poor comment on his ability and skill if, after twenty years spent in the practice of his profession, he cannot do better work than when he first began.

Why Doctors Lack Faith in Drugs

It seems to me that there are two reasons which may account for our lack of faith in our remedies. One is, that we are not using the very best drugs to be had. Perhaps we are employing the crude drugs of our fathers' day, when we ought to be using the active principles of the twentieth century. From herb teas to alkaloidal granules is a long step, but it must be taken if we hope to secure the best results.

The other reason is, that we have not made ourselves masters of the drugs we use. We do not know them as we ought to, we cannot handle them as we should. We do not know them, because we do not study them—as it is our business to do—carefully, critically, thoroughly, constantly. We do not have the skill in handling them that we should possess, because we lack that kind of practice which makes perfect. It is not the number of patients a man treats that gives him experience, but the amount of study, observation, and reflection he gives to each individual case. One man gets more experience out of a dozen cases than another does out of a hundred.

In my student days in medicine, I studied the general subjects of therapeutics and materia medica under two different professors in different schools. Both were excellent men, of good ability and attractive personality. One of them taught materia medica pure and simple—at least, that is the only part of which I have retained any recollection. The list of doses took up a good part of our time, and, so far as I was concerned, were soon forgotten. The origin and physical characteristics of the drugs were described minutely, but what good it ever did me is more than I can tell.

In the olden days, when the doctor gathered his own herbs and made them up into teas, tinctures, and powders, such knowledge was a necessity; but now that the manufacturing pharmacist has taken all these things off our hands and we have to deal only with the perfected and prepared remedies, it seems to me that we waste valuable time in studying these things. As for the real science of therapeutics, he may have told us considerable, but he certainly did not teach me much—much that I have remembered, at least.

The other professor taught therapeutics, and he taught it well. I do not recall that he had much to say about doses or the physical properties of the drugs, but he did teach their uses. He bunched the more important ones into classes, such as cathartics, stimulants, sedatives, narcotics, and the like. He pounded away at the principal uses, until we simply could not forget them. The differences between the virtues of opium and belladonna were explained with care, and then hammered into us, so that they remain in my memory to this day. I learned some things from this man that have stood by me

all the years since. I remember that teacher with gratitude to this day.

Now, I have neither the skill nor the time to teach you therapeutics and materia medica in that way. All that I can do, all that I shall try to do, all that I want to do is, to mention briefly some of the principal drugs at present used by progressive physicians, and dwell particularly upon a few of the most important ones, especially those employed in the treatment of fever.

The Armamentarium of the Progressive Practitioner

The active-principle therapeutist chooses drugs which are small in dose, potent in effect, uniform and reliable in action. The majority of these remedies are the active principles of medicinal plants, which he uses more often than any others, and often uses them in a different way and for a different purpose than does his neighbor the crude drugs from which the principles are derived.

Nevertheless, it must be remembered that it is impossible to practice medicine successfully with the aid of granules alone; for there are quite a number of important remedies, such as the iodides, bromides, acetanilid, phenacetin, bismuth, the salicylates, the sulphocarbolates, and many others, which have to be given in larger doses than can be incorporated in granules. For this reason the list which I shall present by no means will represent a complete materia medica.

Most of the remedies named are prepared in granules representing a minimum adult dose; and these, in acute diseases, may be administered every fifteen minutes, every half hour or every hour, according to the severity of the attack, until some improvement is manifested or physiologic effects are produced. The medicines should then be given at greater intervals for as long as it is desirable to keep up the effect. By following this method closely, it is simply impossible to overdose the patient. You will also observe that the method is exceedingly simple, while the labor of committing a list of arbitrary doses is entirely done away with.

Aconitine and Veratrine, to abate fever. Standard granules; crystalline aconitine, 1-800 grain; veratrine, 1-128 grain. These two are the great fever-remedies.

The specific indication for aconitine in fevers is the small and frequent pulse; for veratrine, the full and bounding pulse. This is only another way of saying that aconitine is the preferable remedy in asthenic cases, and veratrine in sthenic ones. They are the remedies especially in the early stages of fevers and inflammation. When they are continued through the later stages, it is frequently desirable to combine with them certain other remedies designed to sustain the heart and nervous system.

For each of these two drugs there are other minor indications, some of them of considerable importance; but those named are the ones for which they are most frequently employed and the only ones of which we will speak at this time. The granules are best given dissolved in hot water, especially when quick action is desired; but under some conditions the granules may be swallowed with a drink of water.

Digitalin, to sustain the heart. Germanic digitalin is commonly used and is a mixture of three of the glucosides of digitalis: digitalein, digitonin, and digitalin. Standard granule, 1-64 grain.

Digitalin is the great cardiac and vascular tonic and stimulant. In moderate doses, it slows the pulse and increases the arterial tension, hence, is indicated when there is a rapid heart-beat and a feeble pulse. It is contraindicated to some extent in aortic disease and in fatty degeneration of the heart. In certain conditions, it may be given in much large doses than here stated. It may be administered hypodermically as well as by the mouth. By reason of its action on the heart, digitalin antagonizes to some extent the fever-processes and so often is given in combination with aconitine and veratrine for this purpose.

Strychnine and its salts, to combat vital prostration. The salts of strychnine most used are the arsenate, sulphate and nitrate,—the latter being the preferable one for hypodermic use. Standard granule, both of the sulphate and the arsenate, 1-128 grain.

Potter states that strychnine exalts all the functions of the spinal cord—reflex, motor, vasomotor, and sensory, the latter being least affected. When it is desired to secure its remedial effects, it should be given in minimum dose every half hour or hour until either the remedial effects or the earliest symptoms of the physiologic action—restlessness and trembling, with muscular twitchings—are manifest, after which it should be given in lessened frequency as long as necessary to continue its effect.

The Two Dosimetric Triads for Fever

These four drugs—aconitine, veratrine, digitalin, strychnine—are the great active-principle remedies for fever. Singly or com

bined they meet most of the indications, and do it with an ease and certainty not otherwise obtainable. To accomplish this more perfectly, two combinations, have been added.

The Defervescent Combinations

The first of these is known as—

The Dosimetric Trinity. The formula of this combination is: crystalline aconitine, 1-800 grain; digitalin, 1-64 grain; strychnine arsenate, 1-128 grain.

The second of these antiphlogistic combinations is called—

The Defervescent Compound, and its formula is: crystalline aconitine, 1-800 grain; veratrine, 1-128 grain; digitalin, 1-64 grain.

By the action of the dosimetric trinity, the heart is sustained and the nervous system toned up. I know it often is taught—and presumably you have been so taught—that tonics for the heart and nervous system should never be given in fever until there are evident manifestations of failure of these organs. That is to say, digitalis should not be given until there are signs of heart failure; strychnine not until vital prostration supervenes. This seems to me like saying that a man should not go to work to earn any money until his means are entirely exhausted, or as if a doctor were to advocate going without food until serious weakness had set in.

Let us take a case of serious febrile disease, pneumonia for example. If we know anything of the natural history of this disease, we know that its usual course is to go on until the vital forces are prostrated, and that the especial danger to be expected is from weakness of the heart. Is it, then, the wise course to employ no measures to guard against or to prevent this condition?

Shaller, speaking of strychnine, says: "All schools of physicians use but one medicine to stimulate paralyzed nerves and to restore paralyzed muscles, and that medicine is strychnine. There is no other medicine but strychnine that can so effectually stimulate the vital functions and arouse nerve-force. If strychnine is a proper remedy to use to cure paralysis, it is also a proper remedy to use to prevent paralysis." The same or a similar argument may be advanced with reference to digitalin. Both these remedies many times are given in conditions of comparative health, and are considered the best tonics we possess for their respective purposes.

Given, then, a fever which, if unchecked, is sure to produce the conditions calling for strychnine and digitalin, it seems to me that it is the part of wisdom to use them in minimum doses before the danger is imminent, and thereby prevent in many instances the urgent demand otherwise evidenced later in the disease.

In the treatment of fever, then, the remedies at our command will be utilized in the various conditions somewhat as follows:

In the early stages of fevers not of a sthenic type, give aconitine; if markedly sthenic, veratrine; if the fever is high, the pulse full and bounding, and the patient a vigorous adult, the defervescent compound; if the conditions are asthenic, and the patient not vigorous, or in any case where there is reason to anticipate heart weakness, and always in old persons, the trinity granule. As the fever progresses, change from the one to the other as conditions may indicate.

And remember, that you do not need to wait for the diagnosis of typhoid fever or scarlet-fever or pneumonia before beginning this, the essential, treatment of the febrile process. A definite diagnosis, as it shows additional symptoms and conditions, will call for additional remedies; but the essential fever is the same in all and requires the same treatment.

Two Valuable Expectorants

Apomorphine and Emetine, as expectorants and emetics, each with special indications for its use.

As an emetic, apomorphine is best given hypodermically, in doses of 1-16 to 1-10 grain. As an expectorant, it is specially indicated where the sputum is thick, viscid, and tenacious, when it may be given every fifteen minutes until relief or nausea.

It is well to bear in mind that apomorphine gradually turns to a light-green color this gradually deepening to a dark-green, this being hastened when it is exposed to the air. This discoloration may be prevented by the addition of a few drops of vinegar to the solution; still, there is no evidence that the medicinal properties of the drug are at all affected.

Emetine possesses to a certain extent the properties of ipecac, but is less irritating and causes less disturbance of the digestive tract. It is seldom used as an emetic. As an expectorant, it is indicated by deficient bronchial secretion, with tough and adherent sputum, and a dry, harsh cough.

Emetine frequently is combined with apomorphine, and to these two may be added codeine, in similar dosage, more especially

when there is an irritative cough. This makes one of the most effective and reliable cough remedies of which I have knowledge, and it can be prepared in a few minutes at the bedside.

Aloin, Calomel, and Podophyllin, to increase the secretions of the various portions of the intestinal tract. Standard granules: aloin, 1-12 grain and 1-6 grain; calomel (usually given in tablet form), 1-10 grain; podophyllin, 1-64, 1-12, and 1-6 grain.

Saline Laxative. as a laxative and cathartic of almost universal applicability. A granular effervescent preparation of sulphate of magnesium. An indispensable aid in "cleaning out, cleaning up, and keeping clean" the intestinal canal.

Atropine, Hyoscyamine, and Hyoscine Hydrobromide, to combat spasm and to allay irritability. Standard granules: atropine, 1-500 grain and 1-250 grain; hyoscyamine, 1-250 grain; hyoscine hydrobromide, 1-1000 grain. All these belong to the mydriatic group.

Atropine is a cardiac and respiratory stimulant, relaxing the minute capillaries and sending the blood to the surface. Hyoscyamine is mildly hypnotic and sedative. Hyoscine is more powerfully sedative and hypnotic, and is indicated in all motor excitation.

Berberine and Quassine, as simple bitters of general applicability. Standard granules: berberine, 1-64 grain and 1-6 grain; quassine, 1-64 grain.

Berberine is the most widely distributed bitter principle in the plant-world. In addition to its valuable properties as a stomachic tonic, it possesses the property of constringing connective tissue, this rendering it of exceptional value in all relaxed and catarrhal conditions of mucous membranes Quassine is one of our best stomachic tonics.

Cactin, a concentration from cactus grandiflorus, as a valuable heart tonic. While of proven efficacy, cactus in medicinal dosage is without appreciable physiologic action and for that reason condemned by socalled authorities. Cactin is especially indicated in irregular pulse and nervous conditions of the heart. Standard granules, 1-128 grain and 1-64 grain.

Caffeine, as an unequaled brain stimulant. It promotes the flow of thought and increases the mental activities, without being followed to any considerable degree by depression. The salts (so called) of caffeine in vogue are the arsenate, benzoate, citrate, and valerate. Standard granules of either: 1-64 grain and 1-6 grain. Very much larger doses may be given, though. The sudium benzoate is best adapted for hypodermic use, for which purpose the ordinary dose is 1 grain.

Echinacea and Calcium Sulphide, as our best systemic antiseptics. Both drugs are of great value in averting and overcoming sepsis in its various forms. The standard tablet of echinacea (echinacoid) is 1-2 grain; and the standard granule of calcium sulphide is 1-6 grain. Calcium sulphide, however, may be used freely in 1-2 and 1-grain doses. Nevertheless, Doctor Abbott claims and experience amply has proven, that the granule form preserves the virtues of the sulphide far better than when made into tablets. Moreover, there is a vast difference in the quality of the various preparations offered the doctors —some being utterly worthless.

Arsenic, in its several forms, as the great alterative. The salts of arsenic commonly employed are the bromide, iodide, and sulphide. Standard granule of either, 1-64 grain.

Coniine (Cicutine) and Solanine, as antispasmodics and motor sedatives. Standard granules: cicutine, 1-128 grain; cicutine hydrobromide, 1-64 grain; solanine hydrochloride, 1-64 grain. Solanine is especially valuable in some cases of epilepsy.

Codeine and Morphine, as anodynes. Standard granules: codeine, 1-64, 1-12, and 1-6 grain; morphine hydrobromide, 1-64 grain; morphine hydrochloride, 1-64 grain, and 1-12 grain; morphine sulphate, 1-64, 1-12, and 1-4 grain. Codeine is especially valuable in irritative coughs.

Copper Arsenite and Zinc Sulphocarbolates, as intestinal antiseptics and as antizymotics. Standard granules: copper arsenite, 1-1000 grain and 1-250 grain; zinc sulphocarbolate 1-6 grain. Also, tablets of zinc sulphocarbolate: 1-2, 1, 2, and 5 grains.

Ergotin, Hydrastine, and Hydrastinine, to constringe unstriped muscle-fiber, as well as to quicken the heart. Standard tablets of ergotin, 1-6, 1, and 2 grains. Standard granules of hydrastine, 1-64 grain; of hydrastinine hydrochloride, 1-12 grain.

Scutellaroid and Cypripedoid, concentrations of scullcap and lady's-slipper, respectively, as mild sedatives, anodynes, and nervines. Standard granules: scutellaroid, 1-6 grain; cypripedoid, 1-12 grain.

Iron, and its salts, to enrich the blood Standard granules of the salts of iron, 1-64. 1-12, and 1-6 grain.

Quinine, and its salts, to antidote malaria. Standard granules of quinine arsenate, which

is the salt preferred by dosimetrists, 1-64 and 1-6 grain. Burggraeve claimed that quinine heightens the tonicity of the tissues; and this perhaps may account for its action in preventing and aborting colds.

Nuclein and Lecithin, to strengthen the defensive forces of the system. Dose of nuclein, 1-2 to 2 drops; of lecithin, 1-2 grain.

Glonoin, to relax the capillaries and quicken the heart. Standard granule, 1-250 grain. This remedy acts very quickly when given by the mouth—more so when absorbed from the buccal cavity.

Arbutin, to remedy all catarrhal and suppurative conditions of the mucous membrane of the genitourinary system. Standard granules: 1-64 grain and 1-6 grain. Tablet, 1 grain. In small doses arbutin is diuretic and tonic to the mucous membranes; in medium doses, useful in subacute and chronic cystitis and to restrain the loss of albumin in nephritis and pus in pyelitis and other forms of pyelitis. In large doses, a stimulating diuretic, and strongly antiseptic. Useful in cystitis.

Aspidospermine, to relieve dyspnea of every kind—bronchial, cardiac or nervous.

This alkaloid from quebracho sometimes is called "the digitalis of the respiratory organs." Standard granules, 1-64 grain and 1-12 grain.

Bryonin, to stimulate absorption and relieve pleuritic pains. A remedy for serous membranes. Standard granule, 1-64 grain.

Cantharidin, to overcome atony of the bladder. Standard granule, 1-5000 grain.

Gelseminine, to combat febrile conditions, when associated with bright eyes, flushed face and great nervous tension. A remedy especially in diseases of children. Standard granule, 1-250 grain.

Pilocarpine, to produce diaphoresis. The most powerful agent for this purpose that we possess. Standard granule (of the nitrate) 1-250 grain.

Potassium Dichromate acts as an alterative to mucous membranes, particularly of the respiratory tract. Standard granule, 1-64 grain.

Sanguinarine acts as a general tonic and expectorant; also is a sexual stimulant. Standard granule, 1-64 grain.

Iodized Calcium, to combat membranous laryngitis (true croup), catarrhal laryngitis, and all forms of colds, especially those affecting the throat. Iodized calcium also produces the systemic effects of iodine without giving rise to the phenomena of iodism. Standard tablets, 1-3 grain, and 2 and 5 grains.

Creosote, to serve as a respiratory antiseptic and an antituberculosis remedy. Standard granule, 1-64 grain. It may be given in much larger doses, however.

Phytolaccoid acts as an alterative and absorbent in glandular enlargements. Standard granule, 1-6 grain.

Salicin acts as a sexual sedative. Standard granule, 1-6 grain.

A Few Reflections

It will be observed that in a considerable proportion of the remedies named only one single use, either a general or a special one, is named for each drug. This is in accordance with the belief that it is advisable to select the most important action of any given drug or the object which it serves in a more direct and positive way than does any other drug, and to make this the keynote for that remedy.

Thus, for instance, we have "quinine, to antidote malaria." Now, quinine serves many other purposes, some of them quite important; but not one of the unnamed applications compares in importance with this particular one, while in no other condition are the results so superior to those which can be secured by means of any other known drug as in this common and serious condition of malaria. Then there is glonoin, "to relax the capillaries and quicken the heart." In the case of this drug the purpose named is practically its only use, but it fulfils that far better than any other known remedy, at least in an emergency.

By adopting this plan, the principal use of a drug is readily learned and quickly brought to mind when required. Moreover, the other and minor uses will easily take their places as they are needed. Still other drugs are used practically for only one indication, and that a limited one. For example, agaricin is useful to prevent excessive perspiration (night-sweats); and this is the favorite although there are other drugs for that condition. I am not aware that agaricin is prescribed for any other indication.

It would seem, then, that the natural method of studying drugs is the best one. Find out first its most important use, the purpose which it serves better than any other remedy. As other uses are developed, let them take their proper places.

Sometimes, however, a more perfect knowledge lessens, instead of increasing, the number of uses of a drug. Thus alcohol was formerly recommended for nearly every diseased condition known to man. It was thought to

protect one from the cold of winter and from the heat of summer; it was used to strengthen the weak and to comfort the afflicted; to increase the appetite and promote digestion; and to take the place of food and prevent the pangs of hunger; to relieve pain, assuage grief, overcome melancholy; to prevent heart failure, bring about reaction in shock, bridge over the crisis in fevers, destroy the germs of infectious disease.

But of late years physicians have gone more closely into the physiologic action of alcohol, while they also have learned more of other substances to produce the various results formerly thought to be secured by this one; with the result that the internal remedial uses of alcohol are now practically limited, among up to date scientific physicians, to two—to dilate the capillaries and quicken the heart, in small doses, and to benumb the sense of pain and produce easy death, in larger ones. But even here the first-mentioned use is better met by nitroglycerin, and the second by morphine. We now have perhaps a dozen drugs, each of which takes the place of alcohol in some one of its uses, and does that work better; not one of them, though, will accomplish all the results ascribed to alcohol.

The Value of Experimentation

As practitioners of medicine, after passing your examinations, it will be your privilege, and, I believe, your duty as well, to be real students of the action of drugs. You should not only learn what the books have to tell you of these things, but you should try to enlarge to some extent the bounds of knowledge. To illustrate how you can do this.

For the last ten years I have been studying experimentally the properties of a little-known drug, the verbena hastata. This is not a very important drug—it is not even entitled to be called a drug of the second class. Most of the uses which formerly were ascribed to it by the few books mentioning it at all are better met by other remedies. But I learned, a dozen or more years ago, that someone had used this humble herb—the blue vervain—with apparent success in certain cases of epilepsy. Now, epilepsy is a disease in the treatment of which a large number of remedies have been tried, but not one of them with any great satisfaction (even the bromides often do more harm than good), and so it seemed to me that the claim was worth trying out. Just to what forms of this malady the herb was best adapted, no one seemed to know—and this, then, was the problem which I set for myself to solve.

I began to prescribe the verbena hastata for a woman who just then had been made distinctly worse after a course of the well-known "compound-bromide treatment." The result of my experiment was favorable—so favorable, indeed, that the patient has continued the use of the verbenin from that day to this, for the reason that, while it did not wholly cure her, it has enabled her to control the manifestations of the malady more fully than any other treatment she has ever tried, and that with absolutely no unpleasant by-effects. I then tried this remedy in the case of another patient, who had been somewhat improved under the bromide treatment but desired to avoid the very unpleasant incidental effects of that drug. Here verbenin not only failed entirely, but made the patient distinctly worse.

As a result, I adopted tentatively as my first indication for giving verbenin: "when patients have been made worse rather than better by the bromides." That was a broad rule, but the experience in ten years of further trial of the remedy has confirmed it. Meanwhile I have continued my study of the action of the drug in similar cases, until I now have five indications by which to judge as to its applicability; and further use will, no doubt, develop others, and perhaps modify some of these five.

In the meantime I came upon another drug—solanum carolinense—of greater power but very unlike in action, which I have found to fit in a large number of those cases in which the patients were not helped by verbenoid; so that in these two drugs, verbena hastata and solanum carolinense, or their representatives, I have been able to benefit a large proportion of all the epileptic patients who have come under my care. But, in all my use of these remedies, it has been my constant study to determine the special indications, or, if you please, the particular class of cases, for which each one was fitted. It is in this way, it seems to me, that every physician can and should do his part in broadening the common knowledge of our profession.

Some Questions Regarding Tuberculosis

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I. General Problems of Prophylaxis

THE problems to be considered in this paper are four in number and will be discussed seriatim under the head of as many questions, as follows:

Is Tuberculosis Hereditary?

1. To what degree is tuberculosis a hereditary disease?

Practically all authorities agree that strictly and obviously congenital tuberculosis is exceedingly rare. Such cases, while literally hereditary, do not fulfil the essential conception of hereditary transmission, but are strictly contagious. It is quite conceivable however, that analogous cases exist in which the tuberculosis exists from fetal life, but in a latent form until much later.

It is important, both theoretically and practically, to distinguish these cases from those conforming to the ordinary conception that not the disease itself but a marked tendency to it exists, or rather to determine the reality of heredity in either sense.

As about ten percent of all deaths occur from tuberculosis and as about a fifth of all deaths not due to the infirmities of the extremes of life and to violence are from this cause, it would seem that anything like a constant hereditary tendency would long ago have exterminated the susceptible families.

The frequency of the disease obviously forbids the use of the word family in the genealogic sense. There is probably no one in a country where tuberculosis has been endemic who has not had several tuberculous ancestors. There is ample observation to show that, on the one hand, tuberculosis frequently develops in persons without an immediate tuberculous heredity and, on the other hand, that members of tuberculous families escape.

Considering the fact that members of the same immediate family are subject to the same environment, liabilities to infection, and dietetic and hygienic causes predisposing to successful implantation of bacilli as well as to direct contagion from a single familiar case, it seems a rational conclusion that heredity is not a factor, except rarely, in the direct sense and for a general predisposing tendency amounting to the fact that the children of tuberculous parents are rather liable to be feeble, even if born before the tuberculosis develops in the parents. But it is important to bear in mind that lack of tuberculosis in the family does not guarantee the individual against the disease, and also that its presence does not necessarily determine a similar fate.

How Far Is Tuberculosis Infectious?

2. To what extent is tuberculosis an infectious and to what extent a contagious disease?

It is almost inconceivable that the profession is mistaken as to the existence and pathogenic significance of the tubercle bacillus. Hence, tuberculosis certainly is an infectious disease. Moreover, a germ which requires no special phase of a life-cycle to determine its pathogenicity and no peculiar mode of implantation or recondite state of receptivity belongs, in a general sense, to the contagious group.

The almost interminable dispute as to whether tuberculosis is contagious or not depends mainly upon definitions, and on definitions not clearly stated. If one is asked to name, off-hand, a typically contagious disease, he will answer: measles, scarlet-fever, influenza, or some similar easily conveyed infection.

Analyzing the common conception of a contagious disease, we are reduced to the paradox that it is one so readily conveyed as not even to require contact. Gonorrhea is often cited as a disease peculiarly due to contact. But, while it is literally contagious, it requires—with some exceptions—conditions for its transmission, just as limited as the bite of a mosquito for malaria and yellow-fever, as the hermetic, anaerobic sealing of the implanted germ in tetanus, and, hence, is just as truly and practically innocuous for the attendant and chance associate as these latter diseases, which are defined as infectious but not contagious.

Now, in the case of tuberculosis, we should save trouble by dropping the term contagious altogether and getting down to hard facts.

Few competent persons will dispute that these facts are about as follows:

(A) Almost all cases of pulmonary tuberculosis, about 90 percent of nonpulmonary cases in adults, and probably 50 percent of nonpulmonary cases in infants and young children are due to preexisting human cases of tuberculosis.

(B) The tubercle bacillus as it leaves one patient is perfectly competent to infect another, and it remains potent for a variable time, depending upon environment.

(C) Excepting under very peculiar conditions, practically amounting to a sole conceivable original case, one can not expect to demonstrate that a particular patient has been the source of disease in another. Owing to the slow development of the disease and the possibility in the great majority of instances of a multiplicity of sources, we can not say either that a certain degree of association with a case is dangerous or safe, although there is a tendency at present to lay down rather arbitrary rules in this regard and to ridicule avoidance of a human case under certain regimens of management.

The writer leans strongly toward a justification of phthisiophobia. He does not believe that any patient can be "cleanly" in the sanitary sense, but believes that in the millions of individual contacts of hands with portals of exit of bacilli and with dishes, linen, furniture, etc., a bacteriologic slip will sooner or later occur. Besides this, coughing, sneezing, urination, defecation, and so on, will ultimately produce fomites. Leprosy was practically exterminated from Europe, centuries before bacteriology and sanitary science were developed, *by isolation*; and isolation is the only practical means that at present is attainable for exterminating tuberculosis.

The Causes of Tuberculosis

3. What is the relative weight of the essential cause of tuberculosis and of predisposing causes, in the practical determination of the disease?

With the possible exception of certain infections not prevalent in this country, but not excepting certain diseases, like cancer, which may or may not be infectious, tuberculosis is the only specific infection in which the general state of the health and resistance of the body as ordinarily gauged has anything to do with susceptibility.

This sounds like a rash and inconsidered statement, but it is made after a careful checking off of the list of infections. Note that it does not allude to established immunity as for the semelincident diseases (exanthemata, typhoid fever, etc.); to local susceptibility, as of the tonsils, etc., for diphtheria; to circulatory conditions, as for pneumonia; to caution, as for the venereal diseases, typhoid fever, etc.; to conditions due to age, sex, etc., as for typhoid fever, the lesions of the uterus predisposing to cancer (if an infection), etc.

There is a popular, even a professional idea that typhoid fever is favored by exhaustion; but, if so, the rule is not dependable in either direction. Healthy children are not spared by the exanthemata; if anything, they are rather predisposed because more liable to encounter cases. Until recently, pneumonia cases were commonly treated in wards with consumptives, without any notable tendency to infection. Certainly good general health is no safeguard against venereal infections.

The evidence, as taken by observation, experience, etc., may not convince all, as it has the writer, that tuberculosis is unique among specific infections, in depending largely upon the general state of the health; but the writer feels justified in stating this opinion. At the same time, the writer would expressly qualify this opinion by the observation that, at present, we judge of general health and resistance by very superficial and inadequate measures. Fatness, heavy muscular development, large chest expansion, and so on, do not by any means protect. The flat chest has been shown by actual statistics to be less common in consumptives than a round thorax—not referring at all to the late development of emphysema. Blondness is certainly not a predisposition, and it is an open question whether the types of tuberculous diathesis formerly regularly described have any weight at all, except as some of the items refer to results of undetected disease or to deviations from normal circulation and lymphatic and hemic development.

There is a degree of "wiriness" and resistance quite compatible with muscular weakness, apparent lack of nutrition, at least in regard to the deposit of fat, even with anemia and catarrhal tendencies. The Indian, an open-air liver up to very recently and largely so at present, seems to be highly susceptible to tuberculosis, although perhaps on account of a sudden change to civilized life and an indifference to sanitary and hygienic measures.

On the other hand, the Jew, long accustomed to indoor life, under conditions of bad housing, bad ventilation, overwork, inadequate pulmonary exercise, and stunted development is relatively immune. Yet, with all these exceptions, resistance or susceptibility to tuberculosis seems to depend, as do these factors, for no other specific infection, upon general states of health.

Some sociologists have gone so far as to regard tuberculosis as a scavenger of the race, removing the physically and mentally, and to an extent even the morally unfit. Excepting in the extreme Spartan sense, the writer would disagree most heartily with this dictum. Some of the best minds have been in bodies afflicted with tuberculosis. Many apparently and probably actually susceptible persons, if protected from infection, gradually attain vigor. To a very large degree the general physical factors determining susceptibility are transient—colds, periods of exhaustion, temporary depression by other infections, diseases of totally different nature, even traumatisms.

Thus it is no real inconsistency to hold, on the one hand, that tuberculosis is dependent, as is no other specific disease, upon general depressed conditions; and, on the other hand, to emphasize the importance of removing, even by such extreme measures as isolation, the possibility of fomites of infection with the tubercle bacillus.

These general problems connected with tuberculosis lead to others, more detailed and less easily answered. For example:

Restriction of Reproduction

4. What restriction on procreation ought to be imposed, with the special object of eliminating tuberculosis?

It is easy to say that tuberculous and feeble persons should not marry. But, short of actual tuberculous disease, can we lay down rules?

In an apparently healthy individual, has a "tuberculous-family history" any weight? Is there anything to "diathesis" (with the qualifications already made)? Is there any period of life of the parent which especially favors the development of tuberculosis in the offspring—barring obvious immaturity and senility? Is there any strictly racial tendency not accounted for by environment, habits, and other factors? Are there mutual relationships between the two parents, as respective ages, consanguinity, race, and so on, to be considered?

There is a prevalent opinion that the husband should be somewhat, but not too much, older than the wife. Is this merely a sentiment or has it a physical basis, particularly with regard to tuberculosis?

There is an almost unanimous sentiment against consanguineous marriages; yet, historically and by their legends, actual incest is shown to have been prevalent in most primitive peoples, even the most vigorous. Today, incest is almost a negligible factor, except criminally, but consanguineous marriages involving some degree of cousinship are fairly common. The writer's personal—although by no means original—opinion is, that cousinship merely concentrates the chances of heredity of certain strains. The child of first cousins has three instead of four different grandparents. If the cousinship is double, the offspring has only two grandparents. If the parents are second cousins, the same ancestor occurs in two different generations.

At present, we have little, beyond theory, as to the actual bearing of heredity in general and concentrated heredity in particular upon any ordinary physical condition, although much statistic information as to the evil results in regard to moral and mental proclivities and neurotic taints of various kinds. It is true that there are frequent reports of mental and neurotic cases ascribed to consanguinity of parents without neurotic taint, but the conclusion is unwarranted unless carefully controlled by a study of ancestry on a large scale. The fact seems to be that the United States was established by the children of not very remote cousins, and a considerable degree of inbreeding probably exists, and has existed, in every community that has been fairly stable as regard immigration for a century or more, anywhere.

Regarding race, the opinion has already been expressed that differences in susceptibility are due rather to environment, habits, the existence of a large supply of susceptible material owing to sudden changes in manner of life or opportunities for exposure, or the removal of susceptible material and the survival of the fittest during a protracted persistence of the same factors of environment and population. As in regard to age and consanguinity, the same problem of relationship of race in the parties to a marriage arises. Here again we have certain popular notions which may be dismissed as mere prejudices so far as hygiene is concerned, and, yet, it is perfectly possible that careful study may indicate desirable and undesirable lines of hybridism.

It must not be forgotten that race means cousinship. For instance, the word Yankee, as a racial designation, is limited to a period of 282 years at the most; and for the last 140 years the Yankees have gradually spread over a large territory. Yet the chances seem to be about one in four that any Yankee can trace relationship to any other, providing of course that they have kept track of a reasonable number of ancestors apiece.

A national term, however, does not necessarily represent race. For example, England early in the seventeenth century was only about 500 years removed from a state of unamalgamated races. The colonial Americans, who have only recently begun to intermarry with more recent immigrants, are already nearly three hundred years advanced toward a state of amalgamation.

Most of the European nations represent quite distinct races in each. Up to a century ago, barring infrequent tides of migration on a large scale, conditions were such that nearly every county or locality tended to the formation of a subrace by intermarriage. Moreover, until recently, class has determined inbreeding as much as, or more than, national designation. Royalty and the high nobility really represent a race by themselves, even more strictly than such aggregations of people as are designated German, French, Spanish, and so on. The present king of England is said to be the first for almost two hundred years who has not spoken with a marked German accent.

If two Joneses should, properly, not marry, there should theoretically be the same objection to the marriage of two persons of the same distinct race, and for exactly the same reason. So, too, if there is an advantage or a disadvantage in the union of two family types, then, certainly, there should be similar advantages or disadvantages in the union of two racial types.

But all such theorizing may be met with the fact that physical and mental proclivities are not very accurately indicated either by family or by racial names.

The Differential Diagnosis of Indigestion

By AUGUSTUS K. DETWILER, M. D., Omaha, Nebraska

AN ANALYSIS OF THE SYMPTOMS

INDIGESTION is perhaps the most frequent and most serious complaint that comes before the general practitioner, and its accurate diagnosis the most important problem that confronts him. Its importance is so great and its causes are so far-reaching that it well repays, in a practical way, careful study.

We wish to discuss the variations in the symptoms as they occur in ulcer and cancer of the stomach, in duodenal ulcer, gallstones, and appendicitis.

Pain is the most important of all the symptoms of indigestion, for in the majority of cases it is the pain which forces the patient to seek the physician, even if it be not the first symptom to appear. Its onset is so gradual that the discomfort or even real pain, which the patient describes as indigestion, may be present for months or even years before relief is sought. As a rule, in the forms of diseases we are considering, the patient merely complains of painful dyspepsia, when, as a matter of fact, careful analysis of the symptoms may disclose lesions of a most decidedly different nature.

In *gastric ulcer*, the onset of pain is gradual. There is complaint of slight discomfort following soon after the taking of food, and it is at first distinctly local and confined to the epigastrium; but soon it is more general and, in fact, becomes a constant positive pain. This may radiate to the right or left, and usually is described as of a burning or boring character; and the longer it has existed, the more the radiation spreads. Generally it passes through to the back, and may be felt under the scapula at the level of the seventh or eighth dorsal vertebra. The important fact about the pain of gastric ulcer is, that it is relieved by the emptying of the stomach; for which reason it is generally connected with the ingestion of certain articles of food that commonly are regarded as indigestible.

Another peculiarity of this pain is, that the attacks, which may continue for days or weeks, are likely to be followed by spontaneous partial relief for two or three months. Always the pain is the constant feature, while the attacks are but exacerbations. The time of the onset of the pain after taking food is variable: in some patients it may occur at once, even before the meal is finished; in

others it may not be felt until several hours after eating, and in this resembles the pain of duodenal ulcer. The time of onset is regarded as pointing to the site of the ulcer, occurring earlier when the lesion is seated near the cardiac end, and later when in the pylorus and cap of the duodenum.

In *gastric cancer* very marked differences are noticed in the character of the pain; but it must be remembered that cancer may occur in the site of an old ulcer or it may arise even when the stomach apparently is free from any trace of disease. Many times there is a history of previous attacks in which the pain was typical of gastric ulcer. In later attacks, however, the character of the pain changes, the intervals of freedom from it (between meals) shorten and eventually disappear altogether so that the pain is constant, although it may still grow worse after eating. Still, in every instance there is constant, albeit slight, pain.

When a patient has been free from gastric trouble, the age at which the pain appears is highly important, for cancer occurs most commonly after the age of forty. There are many people, however, past that age who have dyspepsia, without demonstrable organic changes; but such patients usually have been troubled more or less with indigestion all their lives. Nevertheless it is a fact that serious organic disease should be strongly suspected when symptoms of chronic gastric indigestion appear after the age indicated. It must not be forgotten that cancer may occur at a much earlier age. When present, the first symptom observed is usually a sense of discomfort, becoming more definite after eating and especially being more marked after solid than liquid foods. It is important to note that few cases are distinctly typical, while particularly in those following gastric ulcer the pain can not be easily differentiated.

In *duodenal ulcer* the pain may be quite distinct from that of gastric ulcer or of cancer. The age at which this lesion begins may be at any time between two and seventy years or later. The nature of this socalled "hunger-pain" has long been recognized.

The patient—usually a man—complains of pain coming on about two or three hours after eating, commencing with a vague sense of discomfort in the upper abdomen and gradually passing into a definite pain; this may be relieved by belching of gas or it may become more severe and extended, radiating through to the right side of the back. At times it is located entirely on the right of the median line and hard to distinguish from biliary colic. The most important feature is, that ingestion of food relieves it. It may occur at night and keep the victim awake, so that these patients often take food to bed with them or carry it in their pockets. Alkalis as well as food relieve the attack.

When the gastric ulcer is located near the pylorus the pain may not appear until long after eating and thus be difficult to distinguish from duodenal ulcer. The peculiarity of this duodenal pain is, that it may last for several days or even weeks, and then be followed by complete cessation for weeks or months; as time passes, however, the intervals of freedom from pain become shorter and the attacks longer, but it is only in the later stages that the pain is constant.

Chronic cholecystitis and *gallstones* give rise to pain located in the epigastrium and right hypochondrium. After partaking of food there is a sense of fulness, often associated with flatulence relieved by loosening the clothes. The sense of distention may become a dull ache or gnawing pain, according to the nature of the food. When cholecystitis is marked, the attacks of pain are radiated from the right hypochondrium and epigastrium to the back and shoulder. Like the pain in gastric and duodenal ulcer, the attacks are periodical, lasting for a week or two, but are worse at night. In some instances the pain may be most marked in the right iliac fossa, so that appendicitis is simulated, but at times both may be found together.

Appendicitis and Gastric Disturbance

Recently it has been shown that there is a very close relationship between *appendicitis* and gastric complaints. In many cases of dyspepsia no lesion of the stomach, duodenum or gall-bladder could be found, but they were fully explained by the discovery of some lesion of the appendix.

Moynihan gave a full account of the symptoms and showed how they resemble gastric ulcer, and how these conditions may be distinguished. Later, Fenwick described the presence of hyperchlorhydria in cases of appendicitis. He states that ulcer of the stomach may actually follow prolonged hypersecretion due to the appendix disease, in the simplest form of the complaint, and that the continuous flow of this hyperacid gastric juice is likely to excite an inflammatory change in the stomach and be followed by a real ulcer of the stomach or of the duodenum. Patterson, in a recent publication, gave this the name of "appendix-dyspepsia," and

showed that there was a lesion of the appendix in sixty-six percent of the cases in which duodenal ulcer was present at operation, suggesting that appendicitis was a cause of duodenal, as well as gastric ulcer. Moynihan states that in every case of gastric or duodenal ulcer the appendix should be examined.

In the majority of instances, *gallstones* are dependent on a bacillus-coli infection of the alimentary canal, and frequently the appendicitis may imitate one or other lesion, or may even be the cause of it. There even may be vomiting of blood in appendicitis. The pain may commence in the epigastrium shortly after eating; it may be rather a feeling of discomfort than real pain, and it may radiate to the right iliac fossa, and pressure there may increase the epigastrium pain. It is rare for the pain to radiate in other directions.

Eating, which is followed by eructation, makes the pain worse, and there rarely is complete relief between meals. In some, the onset is acute, in others it is insidious, while the symptoms often occur in definite attacks that last one or two weeks—but only rarely is there complete recovery between attacks.

As in gastric and duodenal ulcer, vomiting in gallstone disease is extremely variable, and unattended by blood it is of little value in the differential diagnosis. Frequently the vomiting is dependent, not so much upon the disease, as upon the mechanical condition (obstruction) due to that disease. Even in chronic gastric ulcer, there may be no vomiting, though regurgitation of acid material may occur. In the other cases vomiting will accompany the attack of pain, with great relief from the latter.

In Pyloric Obstruction

If there is obstruction at the pylorus, vomiting of great quantities of fermenting and decomposing material may occur, the amount depending on the dilatation due to the obstruction. The same thing is true of cancer; the vomiting depending upon the degree of obstruction at the pyloric outlet. If there is not much obstruction, there is only flatulence and regurgitation of decomposed material, and vomiting does not occur until later. In any case, it may be associated with slight hematemesis, and the vomited material may be small in amount. It is important to remember that in pyloric cancer vomiting is not followed by relief, as in the case of gastric ulcer. If the carcinoma causes the obstruction at the pylorus and dilatation of the stomach, the vomiting will not differ from that occurring when the obstruction is due to other causes.

Vomiting in duodenal ulcer is not common, and, when it does occur, it points to the occurrence of gastric ulcer, appendicitis or gallstones, in addition to the duodenal ulcer; in other words, vomiting is usually a symptom of stenosis of the pylorus, no matter what its cause.

Vomiting is common in the agonizing pains of gallstones and chronic appendicitis, and is then of a reflex character. In gastric ulcer, the amount of blood in the vomitus is very variable; it may be so small as to be found only on microscopic examination or it may be so severe that fatal hemorrhage may be the first symptom. There may be attacks of slight hemorrhage of but short duration and quickly recovered from.

Vomiting of Blood

It is said that severe and repeated vomiting of blood can occur in the absence of definite ulcer, and the name of gastrostaxis has been given to this condition. In cancer of the stomach, the hematemesis frequently is slight in quantity and each vomit may contain a small amount of blood, changed by digestion, giving the socalled coffee-ground appearance. In other cases, there may be no blood in the stomach-contents, as occurs when the growth is close to the pylorus. Or, again, there may be great loss of blood, with severe hematemesis, as well as blood in the stools.

In duodenal ulcer there is almost never vomiting of blood, but hemorrhage may be followed by faintness, and examination of the stools will show the presence of blood. When blood does occur and is large in amount, it is a much more serious and fatal symptom than similar conditions in gastric ulcer. The blood is more likely to pass down into the intestines than back into the stomach and therefore will be found in the stools in an altered state, as shown by the characteristic tarry appearance, if the hemorrhage is profuse, or by chemical and microscopic tests, if smaller in quantity and not discernible by the naked eye.

It is a matter of importance to remember that in many instances of appendicitis and gallstones, hematemesis may be present, although the lesions are remote from the stomach and duodenum. And it may be due, as we already have seen, to the association of these conditions with gastric ulcer. Often one may arrive at a diagnosis from the previous history, but the exceptions to the common types are so numerous that the exact

diagnosis of any one of these conditions is impossible from this aspect alone.

Much further light is to be obtained from the examination of the patient himself. Anemia nearly always is present. This, in ulcer, may be due to loss of blood, or, when there has been no loss of blood, to the underlying toxic condition. Rudemeyer found the hemoglobin reduced in eighty-five of his two hundred cases. Likewise, in duodenal ulcer, gallstones, appendicitis, and cancer of the stomach, anemia may be present, but the differential diagnosis of hemorrhagic anemia and of the anemia due to the absorption of poisons is difficult, if not impossible. Cachexia and loss of weight are also of little value; they may be present in gastric ulcer, and in cancer not appear until late in the course of the disease.

Palpation, percussion, and auscultation give evidence of but limited value.

In cases of gastric and duodenal ulcer, there may be localized tenderness and the position of the tender points may aid in diagnosis. There is deep tenderness over the gall-bladder in chronic cholecystitis, and tumors of the stomach and enlarged gall-bladder may usually be easily felt. But when the tumor of the stomach is large enough to be palpable, the disease is already far advanced and nearly always inoperable. If the abdominal walls are thin, peristaltic waves may be seem if the stomach is dilated. Radiography of the stomach and duodenum after a bismuth meal may be of the greatest value, but the difficulty lies in the correct interpretation of the picture.

It has recently been shown that the usual shape of the stomach is not that of a sac, but that it is divided into a cardiac part, and a more or less sacular pyloric part divided by the incisura angularis. Food is retained in the saccular portion for an appreciable interval. In a distended stomach these divisions may be lost, so that a normal stomach may be mistaken for an hour-glass contraction.

As has been shown by Moynihan, food ordinarily goes rapidly past the cap and upper part of the duodenum, so that, if there is any arrest in this region, it is due to the contraction of the ulcer. The diagnosis is always aided by a test meal, and it is well known that the hydrochloric acid is increased in gastric and duodenal ulcer and diminished in carcinoma, unless there has been a recent history of chronic gastric ulcer. The increase in the albumin in the gastric juice, as shown by the phosphotungstic-acid test, serves to decide between cancer and achylia gastrica.

Of gastroscopy we can say little; but as this requires a general anesthetic, while, further, today the sole danger of exploratory laparotomy is the anesthetic, the patient will suffer the same risk in return for much less information.

If, after all diagnostic means have been used, a carcinoma can not be excluded, an exploratory laporatomy should be done, because of the axiom attributed to Mayo, that gastric cancer does not give rise to diagnostic symptoms during the operable stage. The other diseases, however, are so intractable to medical treatment and are so readily cured by surgery, and, moreover, so likely to be followed by fatal complications if untreated, that valuable time should not be lost in deciding upon an operation. In the simplest forms of gastric and duodenal ulcer, in the absence of severe hemorrhage, medical treatment should be employed for at least two months before operation is thought of.

In appendicitis, the earlier the operation is done, the better; and this is true for the following conditions: (1) In any case, after the age of thirty-five or forty, when the patient is not relieved by a few weeks' medical treatment. (2) In any case in which the stomach shows definite dilatation, and remains of food after twenty-four hours' starvation, whether the symptoms are those of ulcer or of cancer. (3) In every case of repeated hemorrhage. (4) In every case in which a tumor is present and suggesting any one of these conditions, operation is the only rational procedure and should not be delayed, not only on account of its diagnostic value, but because in early and suitable cases it offers the only certain means of cure.

Postpartum Hemorrhage

And How Best to Control It

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois
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EDITORIAL NOTE.—Dr. Rittenhouse has promised us some more papers upon obstetrical subjects. Be on the lookout for them. They will please you—as this article surely will.

IT IS my purpose in this paper to discuss the subject of postpartum hemorrhage from the standpoint of its etiology; to suggest a method of treatment that I have found simpler, safer, and more reliable than that usually recommended in the textbooks; and, especially, to point out the dangers and unreliability of packing the uterus or vagina.

For more than twenty years I have never once packed a uterus with gauze for postpartum hemorrhage, but in that time I have been called a number of times to the rescue of patients who had been subjected to that treatment, and whose physicians, reposing an unjustifiable confidence in the treatment, had gone away and could not be reached when the hemorrhage returned and the patient was *in extremis*.

A very obvious fact seems to have been overlooked by the advocates of this treatment, and that is, that there is nothing to prevent the uterus containing a gauze packing from ballooning up with blood to the same size it had before delivery, except the stimulus to contraction afforded by the roughness of the gauze in contact with the endometrium. Consequently, when a packing becomes thoroughly saturated with blood, it becomes to all intents and purposes a huge clot, and its presence has the same effect as the presence of a clot. Now, observation shows that a large proportion of hemorrhages are caused by the presence of a clot, and cease promptly when the uterus is thoroughly evacuated. The reason for this is evident; for when the uterus is empty, contraction of its walls closes the mouths of its sinuses more effectually than when the presence of any bulky object holds them partially open.

Two Classes of Postpartum Hemorrhage

Clinically, postpartum hemorrhages fall into two classes, differing in their etiology, their prognosis and their treatment, namely, those due to inertia, and those due to the presence of a foreign body in the uterus. This foreign body may be an undelivered placenta (whether adherent or not), a blood clot, or, more rarely, a polypus or a fibroid. True, inertia is very rare, but hemorrhage due to the presence of a clot is quite frequently met with, and one of the commonest of mistakes is to treat the latter as if it were of the same gravity as the former. Hemorrhage caused by a clot is promptly controlled by thorough evacuation of the uterus, while that due to inertia usually taxes the skill of the obstetrician to the utmost.

The Growth of an Intrauterine Clot

The type of hemorrhage most frequently met with develops within an hour after delivery. A fragment of placenta, a bit of decidual membrane, or even the roughness of the placental site affords a nucleus about which a clot gradually forms, and which furnishes an anchorage that prevents the clot from being expelled by the successive contractions of the uterus. Each contraction presses out the more fluid portion of the clot, while the fibrinous part becomes more firm, until it feels almost as tough as placental tissue itself. During the relaxation following each contraction the mouths of the uterine sinuses allow more blood to escape, thus increasing the size of the clot. As the clot grows larger the uterus balloons up more and more, and when palpated through the abdominal wall feels increasingly large and boggy, instead of small, round and firm, as it should.

In the meantime, the size of the clot prevents the proper closure of the mouths of the uterine sinuses and the blood flows with increasing rapidity, so that, while the size of the clot grows constantly larger, considerable blood escapes externally, although cases are occasionally observed where no unusual amount of blood flows from the vagina until the patient is in a dangerous condition.

It should be borne in mind that a uterus after delivery is capable of expansion to the same size it had before delivery; that is to

say, large enough to hold all the blood in the woman's body. Cases are on record where women have died of postpartum hemorrhage with almost no blood escaping externally. In other words, a woman can bleed to death into her own womb.

As the clot grows larger, the uterus treats it as a foreign body, that is, it tries to expel it by repeated contractions which the patient feels as afterpains. So important is this as a diagnostic sign that frequent and severe afterpains should always be regarded with suspicion as a possible forerunner of hemorrhage. It follows, too, that the rational way to treat such afterpains is by removing their cause rather than by the administration of opiates.

In some of these cases there is a degree of inertia at first; but that inertia is not their chief cause is shown by the fact that as soon as the uterus is thoroughly evacuated the hemorrhage ceases and the contraction is maintained. Moreover, it is absurd to attribute inertia as a cause when the patient is having severe and painful contractions every few minutes.

True Uterine Inertia a Rare Cause

True inertia is rare; in my own experience being less than one-fourth of one percent of all cases of postpartum hemorrhage. But when it does occur it is an extremely dangerous condition. The uterus does not contract; that is to say, there is absence alike of the steady, tonic contraction and of the intermittent contractions, both of which are normal and necessary phenomena in the uterus following delivery. The result is quickly fatal unless some stimulant can be applied sufficiently active to arouse the dormant reflexes. The cause of true inertia in the few cases that have come under my notice seems to have been closely related to neurasthenia. They have all been what would be called in common parlance "nervous wrecks."

Prevention and Treatment

In the prevention of the ordinary forms of postpartum hemorrhage the most important rule I follow in my practice is always *to remain with my patient at least one hour after delivery*.

If, at the end of an hour, the uterus is small and firm, if the flow is normal, and if afterpains are not felt oftener than once in fifteen minutes, the doctor can leave his patient with full confidence that she is safe. But, if the uterus is large and doughy when palpated through the abdominal wall, if the patient has frequent and severe afterpains, whether there is excessive external hemorrhage or not, he should realize that there is danger, and should not leave his patient until he has taken effective preventive measures for her safety. Where the above conditions exist there is a clot in the uterus, and by far the most important thing to do is to remove it thoroughly along with any fragments of placenta or decidua.

Introducing two fingers of a thoroughly sterilized hand within the uterine cavity and crowding the uterus downward with the other hand, it is not difficult to explore every inch of its interior surface. Friction with the finger-tips is an excellent stimulant to contraction, and if the emptying is thoroughly done there will rarely be any further trouble. An empty uterus is a safe uterus.

Even where serious hemorrhage has set in, the above treatment is sufficient. The quicker it is resorted to, the better will be the patient's condition, because the less will be the loss of blood. Temporizing measures do not pay.

Packing the uterus with gauze in this class of cases is in my opinion unjustifiable for three reasons: First, because it is not necessary; second, because it is not free from danger; and, third, because of the suffering and shock it causes in the way of afterpains.

In cases of extreme inertia we are justified in taking risks that are unjustifiable in ordinary conditions. Therefore, in any case where emptying the uterus and internal friction with the fingers failed to control the bleeding, I should not hesitate to use the gauze packing, just as I should not hesitate to use vinegar or iron if it were necessary. Desperate conditions justify desperate remedies. But even gauze packing may fail to produce contraction and control hemorrhage. I have seen two cases where it failed and the patients died.

Death From Shock Following Packing

I have seen one case where the patient died from shock; the hemorrhage was controlled by the packing, but the patient died within two hours under circumstances which left no doubt in my mind that shock was the cause of death. She had not lost enough blood to cause her death. The hemorrhage had stopped on emptying the uterus, but the doctor in charge of the case decided to pack for fear of a recurrence. From the time of the packing until she became unconscious she complained of great pain and continually

begged us to remove the packing, saying it was going to cause her death.

I have seen several other cases where considerable shock followed packing. It seems to me that this is not surprising in view of the amount of shock we sometimes see from intrauterine manipulations, such as version.

Possibly one reason why packing as a remedy for postpartum hemorrhage has had a vogue is its value in the hemorrhage of abortion. I have always observed in teaching students that many of them are very apt to jump to the conclusion that if packing is good treatment for the hemorrhage of abortion it must be good for hemorrhage after delivery. They fail to grasp the fact that the conditions are radically different. In a nutshell, a uterus in abortion *can not* balloon up with blood; after delivery it *can*.

What Kind of Uterine Manipulation?

One other feature of this subject deserves a word. Some doctors for a full half hour or more after delivery make an attendant press, just above the pubes, upon the uterus so hard as to be a very decided discomfort to the patient, the object being to prevent postpartum hemorrhage. After using this method for some time I abandoned it, because I found that it did not prevent hemorrhage if the conditions in the uterus were such as to cause it. I still palpate the uterus at frequent intervals during the first hour, but it is for information. If I find it relaxed I knead it gently to stimulate contraction, but I see no object in putting pressure on a contracted uterus.

I am often asked for my opinion of ergot. Good ergot is of value in both the prevention and control of postpartum hemorrhage; but much of the drug as sold is inert. Thirty years ago it was the routine practice to give a dose of ergot in every case immediately after delivery, and there is something to be said in favor of the custom. I have sometimes thought of returning to the practice. At present I give it only when I see evidence of poor contraction.

I use ergot to some extent in the six weeks following delivery whenever I see signs of subinvolution. When given for this purpose I prefer ergotin, because it must be given daily for some time, and the liquid preparations soon nauseate. Ergotin, too, is often inert. The French preparation seems the most reliable.

Coffee and Its Adulterations

By CHARLES F. LYNCH, M. D., Chicago, Illinois

EDITORIAL NOTE.—This is the fourth paper in Dr. Lynch's series upon "Foods and Their Adulterations." Other interesting papers will follow.

OUR popular beverage, coffee, is prepared from the seeds of the coffea arabica after being roasted at a temperature of approximately 200° C. On an average each American consumes from seven to ten pounds of coffee each year.

The greatest percentage of this coffee is raised in South America, Brazil alone furnishing about 75 percent of our supply. The coffee grown in the Dutch East Indies, particularly that originating in the island of Java, has an especially marked popularity among American coffee drinkers, and this fact is taken advantage of by the dishonest dealer as affording a source of unlimited ill-gotten profit. Rio coffee worth twelve to fifteen cents a pound affords an excellent return when sold as Java or in admixture with Java at fifty cents per pound.

In this connection the following communication from the United States Minister to the Netherlands is of particular interest: "The term 'Java coffee' has been abused for many years; hence, it arises that of both roasted and unroasted coffee perchance ten times as much coffee is sold to the consumer under the name of 'Java coffee' as is grown in Java."

This is one of the most difficult of all frauds to detect, as there is no paticularly marked difference in the appearance of Java and Rio coffee so far as physical appearances go. Professional coffee-experts are employed by the federal government for the purpose of detecting the various adulterations of this character. In the state of Illinois the Food Inspection Bureau has no such expert and accordingly is powerless to act against violators of the law except such as may be detected

by the federal officials of the Bureau of Chemistry working in this territory.

Artificial Coffee-Beans

In the past, coffee has been very widely adulterated, and a few years ago the use of the coffee pellet was largely disseminated throughout the country, especially so in the East. This imitation coffee product had its origin in Germany and large quantities were imported into this country as well as large amounts manufactured by our own enterprising manufacturers. This imitation coffee consisted largely of bran, wheat flour, lupine flour, and similar starch products molded in the shape of coffee-beans and baked.

Following are copies of two letters sent to retailers inviting their attention to this quick road to wealth.

"Dear Sir: I send you by this mail a sample of 'imitation coffee.' This is a manufactured bean, and is composed of flour; you can easily mix 15 percent of this substitute in with genuine coffee that ranges in price from 20 to 22½ cents, and it will improve the flavor of the same; it granulates the same as coffee. If you deal with us it will be in the most strict confidence. This S. S. coffee (superior substitute) is packed in barrels, weight about 170 pounds to the barrel. By the use of our bean you can increase your profits 1½ cents per pound and improve the flavor. Try a sample barrel. Price 11½ cents per pound net, ten days."

Another firm with a more greedy eye on profits prepared a most wonderful product, which they described to the dealer in the following glowing terms:

"Gentlemen: We desire to call your attention to our improved grade of coffee pellets, of which we mail you a sample of tonight. The bulk of the goods has been increased, and the drinking merit still further enhanced, as a test of the goods will demonstrate. To exhibit the value of our goods and show the extent they can be used with good results, we mail you sample of a compound coffee made as follows: 75 percent pellets, 15 percent coffee, 10 percent chicory. This makes a very desirable cup of coffee, equal to any low-grade straight coffee, and costs, on basis of 5 cents per pound for pellets, 7 cents per pound. By the use of 33 percent of our new pellets in fine goods, the same result is obtained as from the straight goods alone. We believe a thorough test of the coffee pellets will convince you that the goods are the most valuable adjunct of the coffee business on the market."

Coffee mixture at 7 cents a pound that could be retailed at 17 cents was something of a profit-getter for the dealer, to say the least. Of course the fact that the consumer was drinking a decoction of wheat bran instead of coffee was a minor item of consideration. He was ignorant of the wonderful advances in the manufacturing art, and ignorance was bliss. In like manner the honest dealer who refused to become an accessory to this form of fraud was placed in a bad position to meet the price-cutting competition of his dishonest rival.

Another fraud which was made use of for a number of years and is still found cropping up occasionally is the practice of coloring inferior-appearing coffee-beans with such substances as chrome-yellow, burnt umber, Venetian-red, turmeric, and so on, to give them an added appearance of superior quality and thus enhancing their market value.

Glazing is a practice which has been the source of much contention between the coffee manufacturers and the various state and national food authorities. In the process of glazing the coffee, the beans are passed through a machine in which they receive a coating of egg or sugar or a mixture of both. The alleged purpose of this glazing process is that it is an aid in the clarifying of the decoction made from the ground product. It sounds very nice, indeed, that the manufacturer should be so considerate of the housewife as to go to all this trouble that the prepared coffee may settle out clear.

Like many other of these apparently helpful procedures, there is another feature of this glazing process that is not quite so benevolent in its nature. This is the fact that this process enables the coffee-merchant so to improve the appearance of a decidedly inferior coffee as to permit him to charge the housewife from one to 10 cents a pound extra for "clearing her cup of coffee." This is a good deal like the process of using saccharin in canned goods, so as to protect the diabetic patient from the danger of overconsumption of sugar.

With an observant customer the use of substitution pellets and other forms of imitation coffee is fraught with a certain element of danger of detection, although some of these imitations are so skilfully made that only experts are able to detect them.

For the more timid, who are afraid to attempt the pellet deception, the adulteration often is confined to ground coffee. Here the extent of the fraud has been at times quite widespread. Out of 30 samples examined by

the federal authorities in one series of inspection, 26 were found to be adulterated. This finding of 86 percent of adulterated samples in a series of ground coffees purchased at random shows the extent to which these fraudulent practices are carried without strict supervision by proper officials.

Coffee Adulterants

In the above-mentioned series, one of the samples was found to contain less than 25 percent of coffee; 10 of the samples contained 50 percent or less of coffee, while one sample contained no coffee at all, but was being sold at a price which should insure a pure product.

Among the valuable additions found in these coffees were imitation coffee pellets, chicory, ground wheat, graham-bread crumbs, ground peas, ground corn, sand (10 percent of one sample), barley, pea hulls, buckwheat, and wheat bran. All of the articles named undoubtedly show a reasonable profit when added to coffee to be sold at prices ranging from 16 to 40 cents a pound.

With relation to the use of chicory, this substance has been added to coffee so long that the dealers are highly offended when it is suggested that this adulteration be stopped. The average coffee-merchant seems to regard the use of chicory as a means of increasing profits as a divine right that should be defended by the constitution.

These same gentlemen very glibly tell us in the same breath that the use of chicory in coffee adds a peculiar flavor that improves its palatability. This may be true in some respects, especially in the case of the low-grade qualities of coffee, but there are two big objections to allowing the continuance of this practice.

One of these is, that by the use of chicory it is made possible to conceal inferiority in low-grade coffees and to retail them for something which they are not. The permitted use of chicory also opens the door to wide limits of adulteration in the product. Further, in the case of unscrupulous merchants, the final outcome is the placing on the market of a "coffee" which under some fancy name is sold at an equally fancy price, and which on analysis more resembles chicory flavored with coffee than coffee flavored with chicory, or, as in the case of the sample referred to above, may be found to contain no coffee whatever.

Caffeineless and Cereal Coffees.—Tests

In the last few years there have been placed on the market a few brands of coffee which have had their caffeine-element extracted wholly or in part. One of the large German chemical manufacturing firms has been particularly prominent in the trade and has advertised quite extensively its product, particularly to the medical profession.

In the process of preparation of this form of coffee the whole beans are first infused with water and the caffeine then is extracted from the infusion, after which the exhausted beans are again impregnated with the now caffeineless liquid. They are then dried and put up in packages for marketing. [As a matter of fact the socalled "caffeineless" coffees are practically all said to contain a considerable percentage of caffeine, since it is found difficult, or at least impracticable, to remove all of it.—ED.]

This form of coffee no doubt is of considerable value in selected cases where the use of coffee is producing manifestly harmful effects. It is in no respect to be considered as an adulterated product, but rather is a highly commendable scientific article that is marketed as just what it purports to be —caffeineless coffee. Its popularity, however, does not seem well-enough established as yet to insure any widespread popular demand for it.

Another form of coffee substitutes on the market are those known as cereal coffee. These are extensively exploited as yielding a simple, harmless beverage free from the direful consequences of the use of coffee. These products also are commendable in their own field and are of undoubted value to individuals who have developed an excessive appetite for coffee.

In their play for popular favor, however, these manufacturers often overdraw their pictures of the baneful effects of coffee. In moderation, coffee is not a harmful beverage; in fact, for the majority of grown-up people its effects are decidedly beneficial. Certainly, to the average healthy American in adult life the drinking of one or two cups of coffee each day is in no way deleterious, and should not be interdicted except when its use clearly seems inadvisable. On the other hand, its use by children, with their highly sensitive nervous system, is never to be advised. In this connection it should be stated that some of these much-touted coffee substitutes have been found to contain as much as 30 percent of the so ardently condemned coffee itself. This is not the rule, however, and the majority of these preparations are practically free from caffeine and pleasant as well as healthful beverages.

A rough test for the adulteration of coffee may be made by placing a small quantity of the whole roasted beans in water. Pure coffee will float, while nearly all of the imitation products will sink.

In like manner a teaspoonful of ground roasted coffee when stirred in a glass of water should float to the top. Most of the extraneous substances will sink. Chicory, when present, not only sinks to the bottom of the glass but leaves a yellowish trail as it passes down through the water. There are some exceptions to these tests. Thus, coffee which has been overroasted may sink to the bottom. Still, sometimes the adulterants used are treated with oil so that the imitation beans will float on water.

In the further examination of the ground samples, the use of a magnifying glass or microscope is of the greatest value, since by this means the granules of the various ingredients may be separated.

In the coffee industry, as in other branches of the food trade, there has been a marked forced improvement in the past five years. This change here, as elsewhere, has been only such, however, as has come through the enforcement of the various federal and state food laws. With the present inadequate available funds and skilled employees, these laws are not as completely respected as might be desired. For instance, the Food Commissioner of the state of Illinois has only a mere handful of men available to assist in the enforcement of the laws throughout the entire commonwealth. Many counties of the state are visited only once or twice a year by a representative of the Food Inspection service. Such enforcement of law as this is only superficial and without enduring influence. Nevertheless, the great changes wrought speak volumes for the efficacy of the men in this service; but, at the best, it is merely a skimming of the top. The gross frauds have been largely eliminated, but the most skilful brains obtainable are constantly at work devising newer and more ingenious methods of replacing these frauds by others more difficult of detection.

The men engaged in state, city, and federal food inspection are grossly underpaid, and this makes it impossible to secure the high class of talent desirable in this work. For instance, in the state of Illinois the Food Inspector's salary is only $100 per month, which is less than that paid to the average clerk in a wholesale house, and who is not required to possess any technical knowledge whatever. To secure the services of the class of men who should be in this work, the salary of these positions should at least be doubled, and even then they would not be commensurate with the skill and knowledge which is desirable in these positions. Every year witnesses the disorganization of these inspection forces by the resignation of competent men who are drawn into the employ of food manufacturers, by the payment of much larger salaries and the increased opportunity for advancement.

It is to be hoped that the incoming state and national officials will not allow any suspension of activities in this line, and that they may take a step forward and place these positions on a salary basis which will enable the Civil Service Commissions to secure the very best available men for enrollment on the staff of pure-food officials.

Retarded Labor Due to Slow Dilation of the Cervix

By H. D. FAIR, M. D., Muncie, Indiana
Professor of Obstetrics in Dr. Mix's Private Hospital Training School

I MAY be unable to say anything really new on this subject; perchance the very thoughts I shall attempt to express have been presented time and again, yet, the condition I wish to discuss is so common in the practice of each of us, and is so likely to keep recurring in the future, that the importance of the subject and the value of a full understanding thereof can not be denied. If we can, at this time, reach a conclusion regarding these slow-acting ora uteri and decide on any method whereby the time of the physician may be economized or the suffering of the parturient woman be lessened, it will be well worth our while.

Protracted First Stage

We well know that in a large majority of cases, particularly in primiparas, the tediousness of labor is due to a protracted first stage.

While it is generally admitted that this stage is the one that nature usually cares for without the aid or interference of the accoucheur, it frequently happens that the physician is called early, and for some reason sees fit to remain by the bedside rather than leave the patient, even though his time be more valuable than the family of his patient can ever be made to believe, particularly to the extent of adequate remuneration.

If we are careful diagnosticians and are anxious to determine all the whys and the wherefores in any given case, we shall learn that some of the delays due to a socalled antagonistic cervix, evidently all out of harmony with the procedure at hand, are more apparent than real. In other words, the retardation is due more to lack of effective dilatating force than to rigidity of the canal-walls. Hence, this paper naturally divides itself into two parts; viz., effective resistance, and ineffective force.

When, as sometimes is the case, this resistance is rather spasmodic in its action, it cannot truly be called rigidity of the tissue of the cervix—it is more nearly a spasm, a neurosis, a functional condition. A hyperesthesia, or oversensitiveness, exists where the touch of the finger produces pain and the pressure of the fetal head causes violent resistance.

In this event, we find a patient suffering intensely mentally as well as physically; she is nervous, irritable, and restless. Her skin probably is hot and her pulse frequent. She does not want you to touch her. If in spite of her resistance you do gain access to the cervix, you may find it fairly soft, with a well-defined edge, and apparently dilatable; but, as soon as the pain comes and the distended membranes or head is driven against the rim of the os, there is a speedy contraction and the tissues thin out in a hard, firm layer. Then the patient shrieks in agony and blames the examiner for her pain.

The effect on the nervous system is similar to that of shock, and, although the presenting mass may be driven powerfully against the rim of the os, the uterus suddenly reacts, the contraction subsides, the child recedes, and nothing is accomplished. This is the type of true resistance. The pains are good, the capacity of the pelvis is ample, the mass impinges upon the vaginal portion of the uterus, but the os refuses to open.

Now, what can we do to alleviate this poor woman's anguish? Or, I might ask, shall we do anything? If we do not, we are certain of many uncomfortable hours for ourselves, and of allowing our patient needless suffering.

I am in favor of making labor just as easy as possible for every woman. A few whiffs of chloroform or the more liberal use of ether will relieve this condition in nearly every instance, but I consider it poor policy to use chloroform in this stage of labor. If you begin such a procedure at this stage, you will have a task of no mean proportions on your hands.

The morphine-hyoscine combinations are excellent in such cases and are seldom contra-indicated.

If the proper-sized dose be given, the labor-pains are not abated, but the patient becomes tranquil and sleeps between pains, and, if we again examine, we shall find the os yielding, with a good, round edge remaining during the paroxysm, and labor progressing. If, on the other hand, you give a larger dose, the pains will, for the time, stop and the patient will sleep profoundly, but in an hour or more she wakes refreshed, and with renewed energy and determination proceeds to do calmly that which before was an impossibility.

If it is not thought advisable to use any preparation containing an opiate, gelsemium may be substituted. The resisting, drawn-out os of paper-like thinness is often made to soften and safely yield by the administration of gelsemium. I prefer the specific tincture.

Dr. Albert H. Smith, who was in his prime forty years ago, divides rigidity of the os into two classes, active and passive; the condition we have just been considering belonging to the former class.

Rigidity of the Os Due to Tissue Firmness

The second class does not depend on functional conditions, but is a genuine rigidity due to tissue peculiarities. It may vary from the simple firmness of tissue found in the cervices of elderly primiparas to the hardness of some pathologic degeneration. Unlike the spasmodic type before mentioned, this variety offers a continuous resistance. The os uteri may feel natural, its margin round and well defined, its tissues not sensitive, the vagina not hot and dry. The fetal mass is carried well down into the brim of the pelvis, yet the os does not open. The patient becomes exhausted through hard work, and not because of temperamental conditions.

By contrasting the conditions manifest in these two classes, we see that we are confronted by an entirely different problem. The first required purely systemic treatment, but this may need local attention. About the best and only medicinal remedy with which I am familiar that is useful at such a time is lobelia given to slight nausea. Quoting from

Lloyd's "Hand-book," "Lobelia is the effectual agent when the uterine os is thick, doughy, and unyielding."

In the anatomical rigidity of elderly primiparas the hot douche often produces most gratifying results. I might say, in passing, that it takes skill and patience to give an effective douche. Here may come in the case that requires manual dilatation; if so, you had better do it. I seldom use bags or other dilatators, although I usually have something of the kind with me, but prefer to use my fingers.

It may be advisable at this time to give an anesthetic, for, when the cervix offers the only resistance or obstacle, and this be overcome, delivery may be quickly terminated. When indicated, I never hesitate to use the forceps, and I believe use of this instrument *is* indicated when the only thing standing in the way of delivery is the absence of pains or expulsive effort.

Finally, in passive rigidity, we may resort to cervical incision. While this procedure has advocates among men of good repute, I have never felt it my duty to use such measures, and it is not without danger. In a hospital, with skilled assistance and necessary conveniences, it may occasionally be the operation of choice, but this condition is just as likely to confront us in a poorly adapted room with indifferent assistance. I have seen alarming hemorrhage as well as extensive tears as sequels to a carefully planned and executed incision.

Mechanical Defects Causing Delay

We now come to the second class, namely, delays not due to causes originating in the os itself; cases where even, though contractions are vigorous, the os uteri remains closed for the reason that the dilatating wedge is not brought to bear upon its rim, dilatation not advancing because there is no adequate mechanical force operating thereon. These cases are frequent and may, like those of the preceding group, be divided into two varieties, viz., those which depend upon causes connected with the contractions of the uterus, and those resulting from faulty presentation.

Among the first class, we may find simple inertia. The absence of suffering and stress differentiating it from a case of rigidity. The os may be soft and dilatable, willing to respond to the least encouragement.

Then, again, we have the type of contraction which causes suffering and apparently is vigorous, yet does not drive the presenting mass against the rim. The pain may be intense while the expulsive effort feeble.

Here there is nothing left for us to do but to stimulate the uterus to more active and prolonged effort, and some of the numerous teas recommended by our "grannies" may serve a useful purpose. Where the patient is not likely to be nauseated, hot chocolate or cocoa is my favorite. Loaf sugar, confectionery or sweets of any kind have wonderfully stimulated the contraction of an inert uterus many times, in my experience. This is a point well worth remembering. The reputation of prescribing chocolate caramels may increase a physician's obstetric practice!

Quinine is well recommended and is good, but it is slow in its action. If we had some nonirritating solution for hypodermic use, its value would be greatly enhanced. In inertia due to hydramnios, the proper action is to rupture the sac and allow part of the liquid to escape.

In the class of cases due to faulty presentation, necessarily must be included those where there is a disproportionate relation between the passage and the passenger. It may be the fault either of the former, or of the latter, or of both.

In either condition the results are the same. The head, being disproportionate to the brim, rests above it, moving freely without any attempt at engagement; not being able to follow and take advantage of the start made by the bag of water, it cannot aid in dilatation. Under these circumstances the premature rupture of the sac is a calamity, for the head will be forced upon the pelvic brim, pinching tighter and tighter the uterine walls, making no impression on its lower segment or the cervix proper.

I will enter into no discussion of the treatment of any individual instance in this group, for the conditions met with have such a wide range of variation that each particular case is a rule to itself, and the common sense and judgment coupled with the experience of the physician must be depended upon to control his actions at the opportune time.

I know of nothing that so taxes the ingenuity of the physician as the serious complications that may arise in the lying-in room. You may be brought in contact with one within the next twenty-four hours; and so may I. Happy, indeed, is the accoucheur who can go into the parturient chamber, with his clean hands and intelligent mind, confident in his ability to tell exactly what the situation is, and to assure his suffering patient that he knows just what to do and how to do it.

THERAPEUTIC NOTES

THE MEDICAL TREATMENT OF CATARACT

According to Brunel and Caudron, whose communication to the *Journal de Médécine de Paris* is abstracted in *Paris Médical* for December 21, 1912, the medical treatment of cataract is neglected unduly, although it has been exploited more or less successfully by quacks. The authors claim that the general medical treatment of cataract must be modified entirely, that it must be adapted to the various forms of this affection, and particularly to the constitutional peculiarities of the patient.

SERUM INJECTIONS FOR NOCTURNAL ENURESIS

The American Journal of Obstetrics for December, 1912, abstracts a contribution by Mello-Leitao to *The British Journal of Children's Diseases*, in which five patients are reported as cured of nocturnal enuresis by Cathelin's method of epidural injections of artificial serum. This method, however, the writer states, acts by suggestion. In two other cases these injections failed, and in one of them lumbar punctures were also unsuccessful, while the other patient recovered under renal opotherapy. Fresh sheep-kidneys, 10 Grams daily, were given for more than eight months, though enuresis ceased on the thirty-eighth day.

ASPIDOSPERMINE IN ASTHMA

In an article in the February number of *The Illinois Medical Journal*, J. M. Patton states that recently he has used aspidospermine (both the amorphous and the hydrochloride) in the treatment of asthma and he asserts that the effects of this remedy have been very satisfactory where there was a bronchial factor, while even when there was marked emphysema and a weak heart the relief obtained was marked and lasting.

One patient, a man, had suffered from asthma for thirty years. There were areas of bronchial irritation in both lungs, one of which, in the lower right lobe, anteriorly, refused to clear up under any kind of treatment either dietetic, climatic, sedative, antispasmodic or with the iodides by mouth or subcutaneously. He was steadily getting worse. Adrenalin relieved the spasm, but secondarily increased the bronchial distress. Morphine was the only thing that gave relief, and the use of this drug became necessary once in from twenty-four to thirty-six hours. Finally aspidospermine gave immediate relief, in preventing the return of the spasm; while, by the daily use of from one to three doses, complete relief both of asthmatic spasm and bronchial difficulty was obtained.

VACCINE TREATMENT OF HAY-FEVER

A. G. Haynes Lovell reports, in *The London Lancet* for December 21, 1912, upon five cases of hay-fever in which the patients gave a positive conjunctival reaction, and all reported themselves very distinctly benefited by the inoculation treatment, although none of them were cured. A complete cure, however, was not expected, as in none of these cases were the inoculations started early enough in the off season.

ALKALI SILICATES IN CANCER

The Prescriber for December, 1912, discusses a communication by Dr. Zeller in the *Muench. Med. Woch.*, Aug. 20, 1912, concerning the use of what he designates as nacasilicum (formula: potassium silicate, Gm. 20; sodium silicate, Gm. 20; milk-sugar, Gm. 60. Dose: 1-4 to 1-2 Gram three times a day) for internal use in the treatment of cancer. Zeller mentions Battye as the originator of this treatment, and *The Prescriber* points out that the latter's article appeared in *The Edinburg Medical Journal* for November, 1874.

The silicate treatment of cancer, which has recently been resorted to a good deal, by no means is new; while the other method mentioned by Zeller, namely, the use of the arsenic-mercurial paste of Astley Cooper and others, is almost as old as cancer itself. The combined treatment, which Dr. Zeller adapted from the idea of the older physicians, consists

in the internal administration of the sodium and potassium silicates in powder form, and the local application of a paste composed of arsenous acid and mercury oxide. Of 57 patients, in 20 of whom the diagnosis was confirmed by microscopical examination, 44 were cured, 3 died, and 10 were still under treatment at the time of writing.

GELSEMIUM IN PELLAGRA

Dr. Roy Blosser, of College Park, Georgia, has been using gelsemium in the treatment of pellagra, giving 4 drops of the fluid extract every four hours. The doctor reports excellent results from this remedy saying that the patient will not be without it after taking a few doses.

Inasmuch as there is a general condition of irritation in the nervous system in pellagra, the remedy seems indicated, though we would suggest the use of gelseminine hydrobromide as the best form in which to administer it. Associated with this remedy, might well be used calcium sulphide, as advised by Dr. Mizell, together with intestinal antiseptics and sulphocarbolates, the latter having been very efficient in the treatment of pellagra in the hands of a number of our southern readers.

THE SERUM TREATMENT OF WHOOPING-COUGH

Duthoit (cf. *The Prescriber*, January, 1913) employed Bordet-Gengou's serum in 72 cases of whooping-cough, and concluded from his experience that the serum is harmless even in large doses, that the quantity injected need not depend on the age of the patient, that occasionally injections must be repeated, and that then they should be spaced not more than four or five days apart, in order to avoid serum-sickness.

Fairly good results with this serum have been obtained in this country [see below], but even better by calcium-sulphide saturation.

PROTECTION FROM INSECT BITES

According to Neal, whose paper appeared in *The China Medical Journal*, and is noted in *The Universal Medical Record* for December, 1912, a certain preventive against bites of insects is to rub the body well all over, but not to wipe afterward, with a solution of 1 ounce of magnesium sulphate in a pint of water. If there is a particular exposure, as when in a forest, a stronger solution may be applied to the exposed parts of the body—the face, neck, ears, and hands—so that on drying a fine powder is left over the skin.

We have not been troubled much with insect bites during March!—but next June (when we go fishing) we shall try magnesium sulphate; not forgetting, incidentally, its fame as a promoter of facial pulchritude.

INDUCED LEUKOCYTOSIS IN MENTAL DISEASE

Since some forms of mental disease are due to toxins, and many of the latter are of microbic origin, it seems justifiable, in the opinion of R. Dods Brown and Donald Ross (cf. *The Prescriber*, 1912, December), to administer a drug known to stimulate the natural defenses against toxemia.

After reviewing the work done with a view to producing leukocytosis by the employment of yeast or its active principle, nucleic acid, and of the colloid metals, the authors describe their results in 9 cases of mental disease, 5 of which were acute delirious insanity, 2 were melancholia, 1 was dementia præcox, and 1 advanced general paralysis. In 8 of the cases a 5-percent solution of nucleic acid alone was used; in the ninth case, one of acute delirious insanity, colloidal silver gave the most successful result in the series. As a result of treatment, 1 patient was cured, 4 improved, 3 showed no change, and 1—the one who had general paralysis—died.

The authors conclude that the results are sufficient to show the utility of these remedies as a means of stimulating the natural defenses of the body against disease.

THE BACTERIN TREATMENT OF URETHRITIS

In a paper on this subject (*Indianapolis Med. Jour.*, November, 1912), P. E. McCown insists that, in order to produce a successful and efficient gonococcus bacterin, all the known strains of the microorganism should be combined in a stock-bacterin, and that, for the production of antigonococcic serum, the animals employed for the purpose should be immunized to these same strains in order to produce complete antibodies. Dr. McCown concludes from his experience that bacterins prepared in this manner produce excellent results in subacute and chronic cases, but that the serum appears to be more effective in strictly acute infectious urethritis.

Even if the complete bacterin or serum is not available, this should not, in his opinion, prevent one from using the best bacterin to be had, because this therapy is of distinct advantage in all cases. It is very necessary in cases that lag or tend to become complicated, and is indispensable for those patients who have complications or who for any reason must demand prompt and permanent recovery.

TYPHOID PROPHYLAXIS

Major Frederick F. Russell (U. S. Army), who has probably had the widest experience of any man in this country with the prophylactic vaccination for typhoid fever, said, in a paper read before the Medical Society of the State of New York, that from experience we have come to learn that, with the present method and dosage, it is proper to administer the prophylactic vaccine on the outbreak of an epidemic of typhoid fever. This conclusion is based partly upon the experience in the army, which is highly favorable, partly upon experience in civil life.

In Jacksonville, Florida, in 1898, where 10,759 troops were assembled, being camped there for about four months, there were, according to Reid, Vaughn, and Shakespeare, certainly 1729 cases of typhoid fever, and more probably 2693, with 248 deaths from the disease. At San Antonio, in 1911, in an encampment lasting about the same length of time, there was one case of typhoid fever and no death. All troops had been vaccinated against the infection.

While this improvement shown is not due entirely to the vaccine, but represents the sum of our advances in field sanitation, it helps to show that prophylactic vaccination against typhoid fever constitutes an important part of this field sanitation.

WRIGHT'S SOLUTION

Soon after Sir Almroth Wright propounded his opsonic theory he proposed a solution which he recommended for external application, quite in harmony with his views on systemic infective processes. The preparation, which is known as Wright's solution, has the following composition: Sodium citrate, grs. 2; sodium chloride, grs. 20; water, fl. oz. 1.

This combination acts by virtue of the properties inherent in the two sodium salts, and they are quite different. The sodium citrate dissolves the plasma, or albuminous substance, which is thrown out from the inflamed tissues; while the sodium chloride, by its osmotic action, keeps up a continuous flow of serum, which washes away the wound products. In other words, the sodium citrate prevents coagulation and the sodium chloride produces irritation. Both these processes are desirable in any infected wound to insure efficient elimination of its débris.

The manner of applying the solution is very simple. Several layers of gauze are saturated in the cold solution contained in a clean basin and laid over the parts. A covering of oilsilk may be employed if desired; a thick dry dressing may be sufficient. The gauze next to the wound is to be kept moist for such a time as may be necessary. Dr. Hubert A. Royster (*International Journal of Surgery*, November, 1912) reports excellent results with this solution in two or three wounds that were seriously infected. In each instance there occurred a favorable termination, without scar, mutilation or deformity.

BACTERINS IN ACNE

Discussing, in the December number of *The Journal of the Medical Society of New Jersey*, the etiology and treatment of acne, E. B. Rogers points out that the disease is a chronic skin affection of staphylococcic origin, which persists as long as the organic resistance to the related microorganisms, as shown by the opsonic index, is low.

While such drugs as arsenic, strychnine, iron, etc., will help raise the index, and others, like iodides, bromides, etc., will lower it, and while underlying conditions, especially constipation-autointoxication, are of importance etiologically and influence the results of treatment, the author holds that the best way to treat acne successfully is by raising the opsonic index rapidly.

This can only be done, he says, by appropriate bacterins, and, although autogenic bacterins offer the ideal chances of success, the author has found stock preparations to be very valuable and helpful. He reports six cases in which treatment by means of bacterins gave better results than any other method.

Dr. Rogers is right in approving the use of bacterins in acne—they *are* of extreme value. But they should be associated with a careful toilet of the bowels with laxative salines and the sulphocarbolates, and calcium sulphide often helps substantially in effecting a cure.

GLEANINGS from FOREIGN FIELDS

TRANSLATED BY E. M. EPSTEIN, M. D.

Antitoxin and Antitoxin Therapy

EDITORIAL NOTE.—Until a few days before his death Dr. Epstein was engaged in the translation of a series of articles upon "Antitoxins and Antitoxin Therapy." The first of these articles was published in the February number of CLINICAL MEDICINE, *in this department. We now find that he had prepared considerable more manuscript upon this same topic. This matter will be printed in these columns, and that (together with a number of briefer items picked up from his desk) will finish his work for* THE CLINIC—*the journal that he loved so well and to which he devoted the later years of his life.*

[CONTINUED.]

Antigen and Antibody.—The process of forming antitoxin is only a special case of a general and widely spread reaction when albuminous substances are introduced into an animal and they arrive in the blood unaltered. Then the organism very generally forms reaction-products, and these react with the substances introduced in a specific manner. Thus, when a foreign kind of an albuminous body is introduced—irrespective of whether it acts toxically—as, e. g., the bacterial albuminous bodies do—or whether they are relatively nonpoisonous, such as foreign blood-albumin or milk-albumin, etc., occur precipitates in the serum of the blood, which react with the inciting albumin-bodies and form insoluble bodies.

After injecting animal cells, there arise specifically solvent cystolysins, or substances which agglutinate the foreign cells—the so-called agglutinins. The reaction, in these cases, between the antibodies that arose in the blood and the resulting foreign bodies, the socalled antigens, is directly observable. Other antibodies (as these specific products of reaction generally are called), for instance the antiferments, can be recognized in the serum only by the fact that they abolish the effect of the antigens, i. e., the ferments. In the same way the presence of the antitoxin is recognized only by the serum containing it destroying its toxic effect.

Concerning the nature of the formation of the antibodies we know nothing. According to Ehrlich's conception and of most of the immunists who share this idea with him, the antibodies are already preformed as side-groups in the protoplasm of the cells that produce them: definite groups of atoms of the protoplasm react with the introduced antigens, and according to Ehrlich's theory similar atom-groups being influenced by reaction become newly formed in increased measure, and these pass into the blood as soluble products of reaction and there act as antibodies. As long as these antibodies remain in union with the cells, the groups of protoplasm capable of reaction direct the antigens to the cells, and so, too, the toxins to the point of attack of their virulent action; but when they are found in the blood as antitoxins they, by their affinity, divert the toxins from the point of attack of the cells.

The behavior of the transformation-products, which are easily formed out of the toxins and are nontoxic, was very important for the further development of the immunity-theories. Ehrlich found such transformation-products (toxoids) first in the diphtheria poison (see Ehrlich's "Die Konstitution des Diphtherie-giftes," *Deutsche Medizinische Wochenschrift.*, 1898, No. 38, and "Die Werthmessung des Diphtherie-heilserums," *Klin. Jahb.*, 1897, p. 299). It was only in fresh solution of the diphtheria poison that he found a parallelism between the toxic effect and the binding capacity for antitoxin. By keeping the solution, the toxic effect diminishes, yet the toxoids which are being formed bind the antitoxins as before and evoke in the organisms the formation of antitoxin.

To explain these facts, Ehrlich assumes that there are two kinds of groups of atoms in a toxin-molecule. One group is a binding one (haptophore), by means of which the toxins anchor themselves to protoplasm of the cells and with which this protoplasm binds the antitoxin; the second group is a "toxophore" group, with the loss of which the toxin-molecule loses its typical deleterious effect. The toxoids have no toxophore-group, while, with their haptophore groups, they approach in a similar way the protoplasm of the cells, invite the formation of the antibodies, and can react with the antitoxin just like the original toxic toxin-molecule.

This parallelism between the binding ability for antitoxin in the test tube and the capacity for the formation of antitoxin led Ehrlich to the hypothesis that they are the same group of atoms which, in the synthesis of the antigens with the antitoxins and by its becoming bound in the cells of the organism, enter into reaction.

It is in the fast binding of the toxin in the cells of the organism that Ehrlich's theory sees the cause of the formation of the antibodies, while the typical action of the toxin has nothing to do with it. The theory thus explains that antibody production can result from toxins when the cells are not damaged too much by the poisoning effect. Therefore those cells can also contribute to the formation of antitoxin which are not subject at all to the specific toxicity of the toxin, so far as this is bound in their protoplasm alone.

According to Ehrlich's side-chain hypothesis, the antibodies are those groups of atoms of the protoplasm which react with the antigens in the cells and are formed in excess and discharged into the blood. But as to why there is an excess of new formation and a repulsion of "side-groups," Ehrlich's theory also can say nothing. Ehrlich puts the processes of the damages done to the protoplasm, when receiving foreign substances, in analogy with morphological processes in tissue defects where there is not only a mere compensation for the lost cells but an overproduction is regularly to be observed as well. (Compare Ehrlich, "Gesammelte Abhandlungen der Immunitaetslehre," 1904, and also Aschoff, "Die Seitenketten-theorie," 1902).

Antitoxic Sera are used in the treatment of diphtheria, tetanus, dysentery, and against snake-poison. The preparation of these sera depends, first of all, practically, on obtaining as high a content as possible of antitoxin in the blood of the animal yielding it after an appropriate preliminary treatment. That antitoxin accumulates in the blood in proportion as the animals are more highly immunized is a fact that Ehrlich was able first to demonstrate by the mixing experiment as a method of determining the standardization of antitoxin. (Ehrlich, *Deutsche Med. Woch.*, 1891, No. 32.) After a stage of latency, the antitoxin-content rises after about the fifth day; its maximum in diphtheria being reached after ten days, and in tetanus after seventeen days. Then the curve of antitoxin-content usually begins to fall, rising again after some weeks, until it becomes constant.

The antitoxin which is introduced hypodermically into another organism by means of immune serum is absorbed slowly, but it remains a longer time in the blood. Thus Knor ("Habilitations-schrift," 1895) found, for instance, the maximum content of tetanus-antitoxin in the blood not earlier than twenty-four to forty-eight hours after the injection; then the amount decreased gradually, but only after three weeks no antitoxin was demonstrable in the blood.

The passive immunity, therefore, never has so long a duration as the active. Still, a single injection of the passive-immunity serum of diphtheria and of tetanus serum affords protection for several weeks. This remaining of the antitoxins in the blood so relatively long argues in favor of their standing chemically very near to the normal albumin-bodies of the blood, or that they circulate in the blood combined with albumin. (Roemer, *Beitraege z. Exp. Therapie*, 1905, heft 9.) So far as the excretions are concerned, it is the milk that contains antitoxin. (Ehrlich, *Zeitschr. f. Hyg.*, 1892, p. 183.) Protective bodies, therefore, are transferred from the nurse to the nursling.

Antitoxin is found in all tissue-fluids, although in less quantities than in the blood-serum. However, it probably does not penetrate into the cells. In active immunity, the cells may show even oversensitiveness, although the serum of the animal already contains much antitoxin. This inability of the antitoxins to affect the toxins in the cells themselves defines the limits of the healing power of the serum in the treatment of the disease after it has broken out. Indeed, the antitoxins probably are unable to heal the damage already done to the cells that are sensitive to the poison; being able only to intercept a further attack by the toxins and thus prevent a further increase of damage done to the tissues. How the success of the serum therapy under these conditions is to be understood will be discussed when adducing

detailed instances of the application of serum-therapy in the treatment of diphtheria and tetanus.

The infection with Nicolai's tetanus bacilli do not cause the characteristic symptoms by a propagation of the bacilli themselves, but by the soluble poisons produced in the wound. The phenomena that appear in the animal experimented upon with the tetanus poison are, therefore, exactly the same as those that follow the injection of the incitors (the bacilli) themselves.

While in extension the cramps in man do not follow as regularly as they do in the animals experimented upon, in that certain groups of the human muscles are those that are attacked independently of the place where the incitors gained an entrance, in the animals experimented upon we can distinguish three stages, namely: (1) The local tetanus; a tonic rigidity of the musculature, which begins in most animals in the muscles near the place of injection. (2) A stage of extension of the muscular contraction, from the last-affected muscles to their neighbors. (3) A stage of general reflex-cramps resembling essentially those from strychnine. The first phenomena appear after an incubation-period of eight hours up to as late as several days.

What, therefore, distinguishes the effect of the tetanus poison from the one of strychnine is the long incubation-period and the appearance of the tonic rigidity, especially of the local tetanus.

The origination of tetanus suggested at first the idea that we have to do here with a pathologically increased irritability of peripheral elements. But against this spake the facts that curarization and section of the nerve at the beginning stop the cramps effectually. The local tetanus has found its better explanation rather in the peculiar manner of diffusion of its poison. (H. Meyer and Ransom, *Arch. f. Experim. Pathol.*, 1903 Bd. 49.) The poison of tetanus has a special affinity to the nerve-substance and is conveyed exclusively by the peripheral terminal-nerve apparatus to the central nervous system, and not by the blood current. This transport of the poison by the nerve route explains the peculiar extension of the cramps from one segment of the spinal cord to another.

The tetanus virus does not act toxically by way of the stomach. For one thing, it is absorbed with difficulty, but more particularly because of its rapid detoxication by the digestive juices, especially by the combined bile and the pancreatic secretion. (Ransom, *Deut. Med. Wochenschr.*, 1898, p. 117; Carriere, *Ann. de l'Inst. Pasteur*, 1899, p. 435; Nencki, Sieber, and Schumow-Simanowski, *Zeitbl. f. Bakt.*, 1898, p. 480.) On injecting the poison intravenously, it disappears from the blood after a few minutes. (Decroly und Bonsse, *Arch. f. Exp. Path.*, 1903, p. 211.) After hypodermic injection, also, it is rapidly absorbed. Rats into whose tails the toxins was injected could not be saved by its amputation after two to three hours. The poison, therefore, must have been carried off rapidly from the place of injection, although the symptoms remained latent for a long time after the injection was taken up.

The toxin can be demonstrated in the peripheral nerves at the place of injection. An hour and a half after an injection into a leg the poison can be found in the ischiatic nerve, but is not demonstrable in any quantity in the muscles and fatty tissues of the place of injection. (A. Meyer and Ransom, *Arch. f. Exp. Path*, 1903, p. 369; Marie and Morax, *Ann. de l'Inst. Pasteur*, 1902, p. 818, and 1903, p. 335.) Hence, the poison is taken up by the nervous tissue electively, and the taking up depends on the integrity of the axis-cylinder: a nerve previously cut across will show the poison, only much later, i. e. about twenty-four hours. A degenerated nerve absorbs no toxic substance at all any more.

From this it appears that the nerve-fibrils themselves are the absorbents, and that it is not the lymphatic vessels of the nerves that bring the poison to the central nervous system.

From what has been said, we see that the tetanus toxin, on account of its great affinity for nervous tissue, becomes at once bound to the intramuscular motor-nerve-terminals at the place of injection, or, say, the place where the poison is produced. Then the poison is conveyed in the path of the peripheral nerve to the section of the spinal cord where it belongs, whence it goes to the neighboring section, and first on the side where the inoculation took place. Thus after part of the cord becomes ascendingly implicated until in the last stage there ensues a general rigidity and an increased general reflex irritability.

Another part of the tetanus toxin gets into the lymph and blood paths. But from these the poison does not penetrate directly into the nervous system, but it is taken up by the terminals of other motor nerves and by them —not, therefore, directly by the blood path—

the poison arrives to the centers. By far the greater proportion of the poison directly is taken up by the regional peripheral nerves.

Accordingly, great protection is afforded an animal by severing a nerve-trunk, as, e. g., of the ischiatic, when the tetanus toxin was injected into its leg in a dose so large that it would otherwise be fatal. Hans Meyer was able to adduce in the following way the conclusive proof that the tetanus toxin travels along the nerve. He injected antitoxin into the nerve itself and so cut off the main path for the toxin that became detoxicated by the antitoxin, and any other deathly doses thus were rendered ineffectual.

The taking up of the tetanus toxin into the tissue of the nerves determines the limits of possible healing by antitoxin. The central nervous system and the peripheral nerves do not take up the antitoxin from the blood. Therefore not even a very high content of antitoxin in the blood will protect the animals from becoming fatally sick when the poison was injected directly into the trunk of the nerve, and not, as usually, subcutaneously. Hence is it that only those portions of the tetanus toxin can be reached by the antitoxin and be detoxicated which have remained as yet unabsorbed at the place of injection or that area where the toxin is produced, and also those other portions of it which, although taken up by the blood current, have not been taken up as yet by the terminal nerves.

(*To be continued.*)

THE TREATMENT OF ULCERATIVE COLITIS

In a communication to the 84th meeting of German naturalists and physicians (*Therapie der Gegenwart*, 1912, October), on the treatment of ulcerative colitis, Dr. Wegele warns against the introduction of the rectoscope in these cases, principally, because the intestinal tract is stretched by the instrument and several fatal cases have followed its introduction in the practice of noted specialists.

In the treatment which the author employs, he uses calomel, bismuth salicylate, careful dieting, and medicated enemata. For the latter, he recommends at first chamomile infusion, and two hours later a 1-percent solution of ichthyol or a 1-percent solution of collargol, or, also, a 1-percent solution of hydrogen dioxide. In his charity practice, white bole, or kaolin, often has rendered him excellent service. Laxative mineral waters should not be permitted except they are very mild.

In the discussion of Dr. Wegele's paper, the good effect of white bole was confirmed, also the efficiency of enemata containing balsam of Peru. Dr. Fenger recommended the administration of a mixture of raspberry wine with claret and opium. Dr. Birrenbach advised enemata of calcium chloride.

SALVARSAN INTRAVENOUSLY IN SCARLATINA

R. Lenzmann claims (*Therapie der Gegenwart*, 1912, October, p. 468) that it is possible to reduce the fever in scarlatina gradually by three or four injections of 0.2 to 0.3 Grams of neosalvarsan. After the first injection the reaction may be very intense, because severe toxic symptoms may occur, owing to the immense destruction of the microorganisms. After this treatment the deposits on the tonsils and on the tongue disappear promptly. While it is not possible to influence cases of severe scarlet-fever by salvarsan, the author claims that those of medium severity are rendered more mild.

This last concession of the author's will probably prevent the adoption of his mode of treatment, which, at best, is rather severe. Moderate attacks of scarlet-fever may be influenced favorably and usually may be guided to recovery by appropriate dosimetric, hygienic, and hydrotherapeutic treatment. It is in the cases of severe illness, with intense intoxication that almost all treatment is so hopeless, and it seems futile to propose modes of treatment that are not without danger, unless they promise favorable results in those instances which otherwise almost surely seem hopeless.

MODE OF ACTION OF DIPHTHERIA ANTITOXIN

F. Rolly, in a review of recent investigations in serum therapy (*Therapie der Gegenwart*, 1912, October), shows that, although diphtheria antitoxin probably does not possess a direct bactericidal action, it produces such an action secondarily in the organism. He believes it reasonable to suppose that the injection of the serum causes a stimulation of the bone-marrow or of other organs and cells through which the bactericidal substances are produced in increased amounts. The curative effect of serum injections would then depend upon the power of the organism to respond to the stimulation. The direct action of diphtheritic serum is antitoxic, as shown above; the indirect action is bactericidal.

MISCELLANEOUS ARTICLES

Economic Environment the Main Cause of Disease

THE December issue of THE AMERICAN JOURNAL OF CLINICAL MEDICINE has two timely articles that appeal so forcibly to my disposition to speak out in meeting that I can maintain silence no longer without a painful violation of my conscientious convictions. They are, "The Doctor of Tomorrow" and "If I had a Million." The provoker in each of them is the fact that the argument leaves the gate so wide open that a man of my mental bent cannot help walking right in.

"Every case of illness should be traced to its causes," says Dr. Waugh, and "these made plain to every member, as well as the means of avoidance." How natural, reasonable, and true—especially to the altruistic mind—is this. And, yet, how little did we learn of it in the medical college. Primary, or immediate, causes, as manifested in visible symptoms of course we studied. But those more remote—the cause behind the cause—which reason says should be sought out and removed, of this nothing was said. Hence, I purpose to point out an epitome of some of the avoidable causes of disease as we see them in wrong economic conditions. Possibly many of these statements may seem incredible to those who are not informed in the realms of thought from whence they are gleaned. If so, I will gladly back them up by quotations from official authorities, which for want of space are omitted here.

To know what disease is, we must know what health is, and what life is; therefore, since some physicians and many laymen still hold to the old theological idea of disease, that it is sent as a visitation of an Allwise Providence for some inscrutable purpose known only to Himself, we will clear the way by giving its scientific definition. This also will pave the way to what follows as to environmental causes.

To get "back to nature," as the great philosopher Kant used to say: life is "the definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external coexistences and sequences." This is from Herbert Spencer, the "world's first great systematic thinker" and its greatest synthetic philosopher, so regarded by the most competent authorities. But it is so erudite and scientific that Mr. Spencer himself has condensed it as follows: "Life is the continual adjustment of internal relations to external relations."

It is, therefore, self-evident that perfect adjustment of the microcosm to the macrocosm would result in perfect use of function; which would be perfect health. The moment there is any arrest, excess or defect of functions, that moment physiology passes into pathology. Hence Prof. Huxley says, "Disease is a perturbation of the normal activities of the living body." And Prof. John Fiske, the greatest American exponent of evolution, says, "Dynamic pathology regards all disease as disturbance of the internal equilibrium, and recovery is the restoration of equilibrium." In other words, any lack of correlation of man with his natural environment logically results in disease. Moreover, as this life advances or develops from age to age, and its heterogeneity increases, the multiplicity of its correlations is also augmented, and likewise the necessity for continuous readjustment, in order to preserve health and avoid disease with all the other evils logically resulting from maladjustment.

Nature always aims at perfection of structure, and our supreme desire should be to cooperate with her in all her laws. A sound mind in a sound body is the heaven-born heritage of every human being. If he does not enjoy it, man, and not God or nature, is to blame. This somewhat technical outline of the philosophy of disease and all other abnormal conditions from the point of environment leads us to consider:

That something is radically wrong in society everywhere is painfully evident to everyone, no matter from what angle we view the subject. People do not sever their life-long connections from their religious and political moorings, as they are now doing by the millions, except for the very best reasons. The cry of oppression is heard on every hand.

After studying these questions for some forty years, I contend, without fear of contradiction, that the fundamental cause of disease, crime, sin and suffering is the unequal and unjust distribution of the products of industry. It is self-evident that wherever and whenever the few possess much more than they need or earn the many have less than they need for complete healthful living. This causes abnormal class distinctions and disharmony in the natural environment, destructive alike to both.

About 50,000 millionaires and several scores of thousands of one-hundred-thousand-dollar men now own more wealth than all our other 93,000,000 people. These few, comparatively, "neither toil nor spin, yet they are clad in purple and fine linen and fare sumptuously every day." The lean, lank wolf of want is always howling at the door of some twelve million of our once free American citizens. The jobs of half of our men, women and children are very precarious, and they receive only about half of the $1000 a year they earn and need. Hence their anxiety over enforced idleness, frequent moves, the decreased purchasing power of their labor unhygienic conditions, malnutrition, etc., lower their vitality and paves the way to disease and suffering.

It costs from $1200 to $1800 a year to support a family of five in a healthy condition. How, then, can they live on $500. The average cost of living has gone up 60 percent during the past fifteen years, while wages have increased only 20 percent. During this time our facilities for the production of life's necessities have doubled through the multiplication of labor-saving machinery; which, however, is all in the hands of a limited number of capitalists. And they will not allow their machinery to be used except at a good profit to themselves. About 10 percent of our people now get half of all the wealth produced by the other 90 percent. And two men, Rockefeller and Morgan, control $40,000,000,000, which is to say, more than one-third of all the wealth of our great nation.

About 75 percent of our 20,000,000 school children, most of whom are from the working class, are defective in some way, menacing their permanent health. Slow starvation, the result of capitalistic robbery, is murdering them. Some 3,000,000 of our little ones are in our mines, factories, shops, and other industries, chained to the machines of mammon, their tiny little bodies ground into dollars, to glut the greed of the idle parasitic rich. Their minds are blighted, stunted, shriveled and dwarfed forever. Well does the poet sing:

"No fledgling feeds the father bird,
No chicken feeds the hen,
No kitten mouses for the cat—
This glory is for men.
We are the wisest, strongest race,
Loud may our praise be sung;
The only animal alive
That lives upon its young.

This child slavery is the most damning crime of our age, and it must cease. During the last decade the number of young people preparing for college decreased from 10 to 5 percent. In divorces, we have 73 per 100,000 per annum, while in Germany, England, and France there are only from 6 to 23 per 100,000. Crime has increased, from 1 out of 1647 in 1860, to 1 out of 700 in 1900. Suicides, insanity, prostitution, wife desertion, and other expressions of diseased society are increasing from two to five times as fast as our population. We have 6,000,000 men in enforced idleness, and half a million more tramps, hoboes, and homeless, hopeless outcasts beyond the reach of the census-taker. Venereal diseases are alarmingly on the increase, while marriages are decreasing relatively.

The borrowing classes owe the loaning, loafing class over $70,000,000,000. Nearly 90 percent of our people do not own a home free from debt. More are killed and maimed every year on our railroads, in the mines, factories, and such like occupations than were killed and wounded on both sides during the war between the states, most of which is due to our cannibalistic industrial anarchy. Our annual waste of life and energy, due to easily preventable causes, is estimated to exceed $11,000,000,000.

The management of the steel ("steal") trust for the last thirty years furnishes an illustration of the way this appalling state of things has been brought about. During that time it has increased the working hours of its men 50 percent. The proportion of its employees has been decreased, by installing better machinery and by more thorough organization, by 80 percent. The productive power of its plants increased 300 percent and

the wages of the employees decreased 35 percent. Its laborers are in a barbarous condition. And, remember, this is only one of our over 700 trusts, all of which are capitalized at from two to five times their physical valuation.

The tyranny of these modern tyrants is absolutely unbearable. Through their domination, our whole economic-political system is strained to its utmost. No wonder disease, with all the other indications of maladjustment, is increasing much more rapidly than the population.

And the doctor, in common with everybody else, is caught in the jaws of this modern monster, Moloch. Listen to this from the committee of the Chicago Medical Society, June 28, 1912: "Medicine as a livelihood has arrived at the most critical period of its existence. The economic status of the profession is nothing, if not pitiful. The very existence of the doctor is at stake. . . . . The average income of the doctor in America . . . . is about $700 a year. Economic conditions here are not as favorable today as they were five, ten or even twenty years ago."

We all know how true all this is. We find it harder and harder to collect. And charity-cases are multiplying so rapidly that we do not know what to do with them. Moreover, Christian Science and the dozen other drugless "pathies" are growing rapidly and now have a following equal to nearly one-fifth of our population.

Therefore, we as doctors and guardians of the public welfare, especially from a physical and sociological point of view, must take a hand in the great economic revolution now on, or go to the wall discredited, disgraced, and, perhaps, many of us forced to enter other fields for a living. We must, with everybody else, adjust ourselves to our changing economic environment.

It is self-evident that, to be worth considering at all, the remedy needs must be of such a character as to remove the greatest possible number of causes productive of maladjustment. The correlation between the microcosm and the macrocosm—that is, man and his natural environment—which capitalism has so nearly severed, must be readjusted.

To live a happy, healthy life, to round out the full period of our existence, of, say, one hundred to one hundred and fifty years at least, every grown individual should work, physically, from two to four hours a day. Everyone should study from three to six hours a day. Everyone should have ample time for recreation, rest, and diversification.

This is nature's demand, according to such statesmen, philosophers, and scientists as Kant, Spencer, Lombroso, Marx, Huxley, Darwin, Lincoln, Jefferson, Ward, Compte, and so on. And it is in harmony with the teaching of the Man of Nazareth concerning human brotherhood. (See Matthew 6 : 24–34.)

A word from Herbert Spencer (whose thought was so fully elaborated, on the industrial plane, by Karl Marx, the avator of modern socialism) will both illustrate and prove my position. Thus Marx says, "Briefly, then, the universal basis of cooperation is the proportioning of benefits received to services rendered." Pray, what services do the rich robbers render to society, and what benefits do the workers receive for all their labor? Again: "The highest life being reached only when, besides helping to complete one another's lives by specified reciprocities of aid, men otherwise help to complete one another's lives. The citizens of a large nation industrially organized have reached their possible ideal of happiness when the producing, distributing, and other activities are such in their kinds and amounts that each citizen finds in them a place for all his energies and aptitudes while he obtains the means of satisfying all his desires." How few of the natural, lawful desires of the laborers who do the world's work are now satisfied! How the energies of millions are wasted and their aptitudes undeveloped!

Now, I submit, in conclusion, that a careful study of modern scientific socialism will convince any candid mind that this philosophy meets more fully than any other plan ever proposed all the demands of all mankind for complete living. It fulfils the biological law for complete harmonization with our natural environment, because it places within the reach of all the means by which our needs of body and mind may be supplied.

Socialism proposes the socialization of all our industrial achievements, now used for exploitation, as the only natural, logical remedy in line with economic evolution. This will harm no one, will assure everyone work of body or of mind, or both, and the full social product of his labor, which would be about $2000 a year for a 6-hour day; and more later on, when the industries are better organized. It would give everyone full control of his job. Much more private property could be owned than is now possessed by the average family. It would place every child in school until of age, then give a technical o

professional course of study, if desired. It would do away with the class struggle between rich and poor, which is waxing fiercer and fiercer from day to day.

Poverty and parasitism would forever vanish. So, also, would intemperance progressively, as people become educated. And war, horrid war; well our "spears would be beaten into pruning-hooks and our swords into plow-shares." All the class distinctions due to unequal economic conditions would vanish, for everyone would enjoy the same opportunity that every other one did to procure life's necessities and luxuries, a home and all that goes to make life worth living. It would save the home, purify religion, feed individualism, augment the initiative, cut the taproots of crime, destroy the white-slave infamy, and open wide the door of opportunity to the millions to whom it has been closed by capitalism.

Everything would be made for use, and not for profit, as it is now. The incentive to lie, cheat, and to steal, therefore, would vanish. The sphere of the physician would be found more in the field of prophylactics and teaching rather than as a dispenser of potions and lotions. Nor would there be any more worry over bad debts. Moreover, his pay would be ample and sure, depending on his ability, energy, and faithfulness to his clientele.

That every effort to control or regulate the trusts by the old parties has been a dismal failure and an expense to the people, on the one hand, and a benefit to those vast aggregates of capital, on the other, is plain to every economic student. That industrial cooperation must succeed competition and capitalism as the next step in economic evolution, if we are to be saved from a bloody cataclysm, is likewise evident to all broad-minded students of these questions.

Is it not, therefore, the duty of every member of our noble profession to study the socialist philosophy and to act on the principle of its golden rule, which is, to treat every member of the body politic as he would treat a part of his own body?

S. J. BROWNSON.

Ft. Worth, Tex.

[We make no apologies for publishing Dr. Brownson's article. While we are not socialists, we know that socialism is growing at a tremendous rate in this country. In our opinion it is the product of unhealthy economic conditions—the protest of millions of men and women against the social injustice which makes some men rich and keeps other men poor. That it is the remedy for all our evils, that it will bring about the millenial condition that Dr. Brownson and others dream about, we do not believe. Instead of being in line with evolutionary law, it seems to us opposed to it. All nature is in warfare, and out of its battles there are constantly being evolved not only new forms but dominant individuals—the leaders, the great men. Progress really only comes as a result of struggle. Should we be able to establish a state in which conditions were so ideally simple as our socialistic friends paint them—where no man had to work more than two or three hours a day—it would engender a race of weaklings which would be swept away when the first barbaric tide of fighting savages broke in upon us from Asia or Africa. But—we should all know the program of socialism; with much of it we are bound to be in sympathy, and for this reason we are glad to give Dr. Brownson a hearing.—ED.]

TESTIMONIAL BANQUET TO DR. WM. J. ROBINSON

More than two hundred physicians, writers, editors, and others prominent in the life of the city attended, at the Hotel St. Denis on Friday evening, March 7, the banquet tendered to Dr. William J. Robinson by his friends and admirers, in recognition of his work as physician, editor, writer, lecturer, and publicist, and in celebration of the tenth anniversary of the foundation of one of his journals, *The Critic and Guide*. Dr. A. Jacobi, president of the American Medical Association, acted as toastmaster, and in his usual happy vein told that he read *The Critic and Guide* as religiously as a religious man reads his Bible, and hoped he would be able to read it for fifty years more. Letters and telegrams were read from physicians and editors in many other cities.

In the toasts that followed, Dr. James P. Warbasse spoke of the guest of honor as the iconoclast, clearing medical journalism of past traditions and abuses. Mr. James F. Morton Jr. spoke of Robinson's work for eugenics, commending his campaign against prudery as one carried on, not for sensational purposes, but to gain a serious hearing for questions vitally affecting the race. Dr. H. Edwin Lewis told some interesting history of the days when the manufacturers of unethical products offered unlimited financial backing to anyone willing to bring suit against the Doctor for his exposures of their products. Mrs. Anita C. Block, women's-page editor of

The New York Call, hailed Dr. Robinson as the champion of womanhood and as the new type of physician. Dr. A. L. Goldwater spoke of him as the physician, Mr. Edwin C. Walker as the social reformer, and Mr. A. Bancroft Firmin as the thinker. Mr. Gregory Weinstein toasted him as the friend, while Mr. O. S. Wadleigh paid a tribute to the home-life and the esteemed life-mate of Dr. Robinson; and Mr. Edward L. Bernays referred to the qualities of his children.

Toasting Dr. Robinson as "The Citizen," Borough President McAneny said: "A man who plays the part of Dr. Robinson is not only a citizen, but a good citizen. He has dealt with those things which before long will be matters of discussion in many and many a place. He has dealt with those things that we as a city must deal with, if we are to raise up the right sort of people. The city, if I may so put it, has been the greatest prude of all in dealing with those things that belong to the body social, and when we are thoroughly awakened the fruits of Dr. Robinson's activity will be seen in the city of New York. I regard him as a pioneer who is blazing the way, and where he has gone many and many a man and woman will follow and push his work to its completion. The city of New York values the citizenship of such a man as Dr. Robinson. Long may he continue to be with us and to aid in our city and our social work."

In his response, Dr. Robinson referred to his gratification at the fact that among those present there were so many who did not agree with or endorse all his opinions and teachings, and described the problems besetting a radical medical editor.

THE CLEAN-OUT AND KEEP-CLEAN DOCTRINE

I think I can safely say THE AMERICAN JOURNAL OF CLINICAL MEDICINE has done more to establish the practice of preparing a clean alimentary tract than any other agency in America. And now, after an experience of seven years in our sanitarium, I consider it my duty to add some of my own experience in this direction to all the testimony heretofore published.

Seven years ago there came to us a woman about sixty-five years old who said she had suffered from indigestion for twenty-five years. Her stomach soured so much that, as she said, she had taken a barrelful of soda. She had been given up by her home physicians as a victim of tuberculosis of the bowels which would end in starvation. When she arrived she weighed eighty-one pounds and could scarcely walk two blocks. For five months she had lived on dry toasted bread and cereal coffee.

I concluded that, if her system had been absorbing fermenting and undigested food for so long a time, she needed a thorough cleaning out. So, for about four weeks, we gave her cathartics and purgative mineral water, besides diuretics, hot baths, massage, what exercise out of doors she could take, with plenty of water to drink—adopting every means to eliminate waste matter. This was supplemented with plenty of the mixed sulphocarbolates, to stop fermentation in the digestive tract.

Let me say here that, while many doctors call them useless, we have been using the sulphocarbolates for seven years and believe they are as certain to do their work as bread and meat will do theirs for a hungry body. I think we have tried almost everything that is used for intestinal antisepsis, but now use almost exclusively this combination of the three sulphocarbolates put into capsules to which we add from 2 to 4 drops of equal parts of beechwood creosote and olive oil. We have been using this for nearly five years and have never been disappointed in its results.

Now back to the patient. Along with cathartics we used colonic washings with a solution of sodium bicarbonate or of salt. While we were stirring up so much poison material she did not gain very much the first week. However, she began gaining after that and kept on gaining until she was well, which was three months; after which she could eat anything, from pork and beans to mince-pie, and has been a strong, healthy woman for her age ever since. We did add one thing to Dr. Abbott's clean-out and keep-clean method, and that was to build up the blood.

Now, of course, we gave, at the start, the digestive ferments—pepsin, pancreatin, diastase—but we are using less of these all the time, as I believe their effect is only temporary. If the blood stream is as clean and as rich as it should be, it will furnish its own digestive ferments. I believe the two things we did for this woman's good was, to clean out her system and to build up her blood; and I believe those two things will effect a cure in any case of indigestion when not caused by some organic or reflex trouble, such as ulcer of the stomach, or a duodenal, gall-bladder or appendix trouble.

Five years ago another woman, about sixty years of age, came for relief. For two or three years she had been troubled with constipation and indigestion. When I saw her she had been unable to sleep but little, because of cystitis, had eaten very little for two weeks, and was down and out. Her abdomen was very tender and so distended with gas, feces, and venous congestion of stomach and bowels that she looked as though she were about to be confined. She did not expect ever to be any better. Her urine looked like swill, containing urates, albumin, and other kinds of waste matter, and having a specific gravity of 1030.

We gave this woman a thorough cleaning out, which took three weeks, during which time she told me almost daily she did not believe she ever would be hungry again; but the fourth week she could scarcely wait for meal-time. That was five years ago, and with the exception of one week of sciatic neuritis, she has been well and strong ever since. We also built up her blood, as we do in all these cases.

Yet, I say right here, don't expect to clean out the body by giving cathartics for merely a few days. It takes weeks to clean up many of these chronic patients, using every means known to us to eliminate waste matter from the body.

Another case was that of a girl twenty-two years old, who had been treated for two years for indigestion and general debility. She said she had so little life. She was too tired to dress up and go out with her young man friend. I told her there was something wrong, sure. For about two years she had been eating great quantities of chocolate creams. She had a gastric ulcer, bloated abdomen, and was constipated. Hemoglobin was 65 percent. We cleaned out her system and built up her blood, gave her electrical treatment for the constipation, with other suitable remedies, and 30 grains of bismuth subnitrate at night for the gastric ulcer. In three months she was well and full of life.

Last spring a German woman sixty years of age came for treatment. She said that three years ago a paralysis of the left leg and arm began and, in spite of all kinds of remedies, osteopathy, and electricity, she had gradually grown worse, until at that time she could not get her hand within a foot of her head and could walk only with great difficulty. She gave a history of constipation, and of intestinal fermentation at different times for three or four years. Her hemoglobin tested 50 percent.

We cleaned out her system, built up her blood, gave her faradic electricity daily, and in two and one-half weeks she was combing her hair with her lame hand and walking pretty well. In four weeks she was walking up and down stairs as spry as any woman her age and weight.

Nearly all these patients suffer from indigestion, constipation, intestinal fermentation, concentrated urine strongly acid, or, when elderly, of ammoniacal reaction, with aches and pains from head to foot, and nervousness; all of which are, without doubt, the result of a poisoned and lowered blood stream and all of which symptoms disappear when the system is cleansed and the blood is built up.

I don't mean to claim that we cure all of our patients by this measure, but I am confident a large part of ill health, especially in people past fifty, is caused by autointoxication associated with anemia, which it nearly always causes.

Dr. Dana said, "Neuralgia is the prayer of the nerve for healthy blood."

Dr. Chas. A. L. Reed, in *The Journal of the American Medical Association,* August 3, 1912, speaking of constipation and headache in women, says: "The almost constant occurrence of these two symptoms in connection with painful menstruation, with tender ovaries and uteri that are more or less misplaced, has led to the general conclusion that these conditions are the actual cause of the constipation and headache. I am now seeing a certain important number of cases in which the pelvic symptoms with the constipation and headaches disappear after the cure of the conditions of the stomach and intestines on which the constipation and headaches depend. The mechanical obstruction of various degrees in the intestinal tract not only causes serious disturbances of digestion both in the stomach and intestines, but causes likewise the phenomena of constipation, with resulting hyperabsorption of toxins that are physiologically elaborated in the primæ viæ. The absorption of such toxins causes headache, nervousness, mental depression, and numerous other phenomena often grouped in the clinical picture of neurasthenia."

Dr. J. M. Mathews, of Louisville, Ky., in his book, "Disease of the Rectum," says of constipation: "It is also true that, if the calls of nature are not heeded, the watery constituent is absorbed and being absorbed passes into the blood. It is very easy to understand what the effect of all this is. Fecal matter can be no more nor less to the

blood stream than a poison, the red corpuscles are diseased by it, they are altered in color and have less power, their health-producing and life-giving property is destroyed. Instead of the red cheeks and bright complexion, the rapid circulation and energy that are supplied and caused by these corpuscles, we have after the absorption of the fecal mass into the circulation the sallow complexion, dark rings under the eyes, cold extremities, a less supply of oxygen, and a lethargy which is due to a vitiated condition of the blood and enfeebled corpuscles."

I should like to hear again from the "family" and the editor, for in spite of all that has been said and written on the subject there must be millions suffering from this unnatural, unhealthy, and unnecessary condition.

ELMER T. DAVIS.

Kansas City, Mo.

A FEW PICTURES THIS MONTH

Again we show a few pictures of readers of CLINICAL MEDICINE and their homes, these in response to the generous and repeated requests from our friends that we continue this old-time feature. We had a vote on the subject a few months ago (as you will doubtless remember) and every one who expressed an opinion asked that the pictures be continued.

The home of Dr. W. E. Ritter is nestled up among the Virginia hills. With its broad porch and the shade of that big tree in the front yard it must be a mighty pleasant place in the summer. How's the hunting, doctor? The wood in the background looks good to me.

The two little fellows on page 349 are Dr. G. W. H. Moore (on the left), who remarks that "the small, dark man on the right is my chum, Dr. Griffin, the tooth-carpenter." They live and (pretend to!) do business in Lind, Washington.

Dr. A. T. Cuzner, of Gilmore, Florida, is one of our oldest friends. He belonged to that rare coterie of pioneer dosimetrists which included Coleman, of Texas, and dear old Epstein. Thank God, Cuzner is with us still—working among his fruits and flowers, writing for the press, and practicing his profession. May he be preserved for many, many years.

In the long boat shown on page 351, you can see Dr. A. R. Hollmann, of Mexico, and his wife. It shows a flat-bottomed piragua. Dr. Hollmann has written frequently for CLINICAL MEDICINE.

If you enjoy looking at these pictures you may feel sure that others will enjoy looking at those you may send. We are always delighted to get pictures that show how our readers live, how they look, that present unique views of their surroundings, their patients, and their work. So again we urge our readers to send in pictures. We have a number on hand, and these will be used from time to time, a few a month.

Home of Dr. W. E. Ritter, Whitewood, Virginia

PHENOL APPLICATIONS IN ERYSIPELAS

A short time ago my attention was called, by an article in some journal, to the use of phenol and glycerin, equal parts, as a local application in erysipelas.

I have just used it in a case of a 6-months-old baby. Erysipelas developed from a light wound on the left hip and had spread to the abdomen and below the knee when I saw the patient. The spread was arrested immediately upon the application of the phenol and glycerin mixture mentioned, but I ordered

dered the applications continued every four hours, to be covered lightly with gauze. After six applications the nurse reported the urine very dark and I ordered the applications discontinued.

Internally I gave calomel and castor oil, also pilocarpine, copper sulphocarbolate, and galactenzyme, to arrest all gastric disturbance. The recovery was complete and uneventful, except for the scare of the phenol absorption, in ten days.

E. E. FLAGG.

Curtis, Okla.

PLUMBISM

Under the new Illinois law, all employees who are in hazardous occupations must undergo a physical examination and then, afterward, submit themselves to a monthly inspection. This, no doubt, is a great benefit, not only to the workingman himself, but to his family as well. All the workingmen who come under this act should appreciate the spirit in which it was made, for it was the laboring element which demanded its passage. As a rule the foreign element look upon it as a hardship and as operating against their interests—but they gradually are beginning to see the benefit of it and many are now lending all the aid in their power.

One of the principal industrial diseases and the one which is most frequently brought to the attention of the examining physician is plumbism, which is very common among painters and sanders working with paints containing lead. It is not an uncommon sight to see one whose hands and face are covered with paint working away with a paint-brush in one hand and a sandwich in the other or taking a chew of tobacco or a pinch of snuff from his pocket, just absorbing the lead into his system and never having a thought of using a preventive or taking the ordinary care of cleanliness. Such a man keeps on until he grows sallow, loses appetite, becomes constipated, begins to have cramps in his stomach and various muscles of the body (which he blames upon something he has eaten), and finally his muscles begin to atrophy and lose their elasticity. He never thinks of doing anything for himself until he finds himself bedridden, and only then appeals for medical aid.

In large factories, when the first examination takes place, it is done under all kinds of obstacles. The workingmen protest, thinking their rights are being taken away. They take the attitude that the examining physician "has it in" for them and "will give them the worst of the deal," if possible. In giving answers, they will evade, and do everything possible to throw the physician off the track.

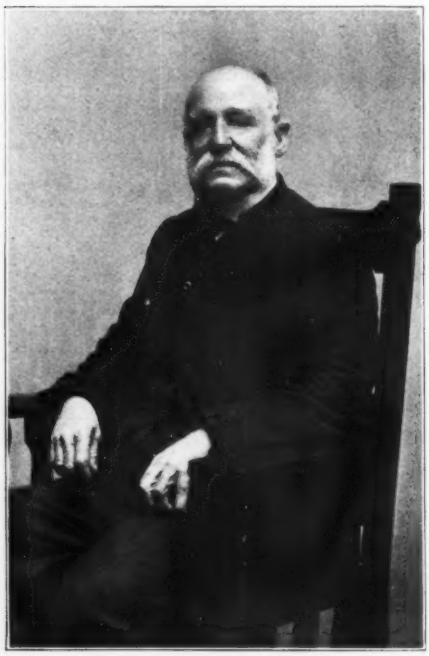
Dr. G. W. H. Moore, Lind, Washington, with his "tooth-carpenter" chum, Dr. Griffin

Indeed, the examining physician's duty is arduous, because the only evidence he can be positive of, regarding the case, is the blue line upon the gums. He is compelled to make his diagnosis from purely objective signs, for invariably he will get negative answers. Then it becomes the examiner's duty to make his diagnosis upon the objective signs that he may find, which is the blue line upon the margin of the gums.

But, also, one may find a typical case of plumbism without the blue line. It is true, a blue line is found in some forms of diabetes, but it has characteristics of its own. As a rule the person's skin will have a peculiar putty-like appearance—and some have a very pronounced odor coming from the skin, and the same odor emanating from the breath. Generally the teeth will all be covered with a black deposit—the oxide of lead—and will be found in a state of decay; there will also be inflammation of the gums and pyorrhea. In nearly all cases the pulse will

be very much slowed. The hemoglobin will be very much below normal.

After the doctor has made his diagnosis and the man is booked for a change of occupation, he will invariably turn up in the doctor's office and say: "Yes, doctor, I tried to fool you, for I have been having cramps in my stomach and muscles so badly I could hardly work. I have no appetite, cannot sleep, and my bowels move only about every six or ten days. I want you to take me in hand and straighten me out as soon as possible so I can return to my old position."



Dr. A. T. Cuzner, Gilmore, Florida, one of our oldest and best friends

There is no doubt the results of the new law will bring to our notice a better and quicker method of treatment than at present. My procedure is, to commence by giving large daily doses of magnesium sulphate together with a saturated solution of potassium iodide, commencing with 2 drops in milk three times a day and increasing the dose every second or third day until tolerance; together with chromium sulphate, 8 grains four times a day. I instruct the patient to drink all the milk he can comfortably hold. If it is a mild case, in about six weeks the man will be enabled to resume his former occupation safely. I instruct him to take a bath every night; see that his hands and nails are properly cleansed and that no evidence of paint is under the cuticle; and to take the sulphate of magnesium three times a week, to help keep up the work of cleaning out and keeping clean.

G. M. McLEAN.

Pullman, Ill.

[I am sure our readers would be glad to have more of these articles upon the industrial diseases. Perhaps Dr. McLean, from his large experience in a great manufacturing center, can and will give us more. Please do so, doctor.—ED.]

CINNAMON WATER FOR THE STENCH OF CARCINOMA

I note what Dr. J. R. McClintock has to say in the February CLINIC about the use of a weak solution of carbolic acid for getting rid of the very disagreeable odor of carcinoma by injecting it into the mass. The odor of carbolic acid is as objectionable to some persons as is the cancerous odor; and at times its use is followed by serious toxic effects—at least it has on one occasion in my experience.

I now use in its stead in those cases, as a local wash, cinnamon water; I also use it as a spray with an atomizer, to destroy the highly objectionable cancer fetor in the patient's room and the adjoining rooms. I have also used it in cases of senile gangrene with satisfactory results. For these purposes it will be found to be very serviceable, and, besides, it is quite agreeable to the olfactories of most persons.

GEORGE D. STANTON.

Stonington, Conn.

QUACKS AND QUACKERY

In regard to my article on "Quacks" in the February number of CLINICAL MEDICINE, I wish to state that a number of physicians have written me in concerning it, favorably and otherwise. I wish to say that it has done good in my territory and that I have no copyright on the ideas there expressed. Anyone desiring to have the article printed on slips—as it is or with changes or additions, may do so. Several doctors have written, asking my consent. I will say, however, that I have added a few lines to the original on advertising quacks, which I think adds to the value of the article. A copy of the same will be mailed to anyone enclosing a stamp for

postage. I've had these published in our county papers. They have done good, too.

O. C. CHURCH.

Greenville, Ill.

THE BALTIMORE HOME FOR DOCTORS' WIDOWS AND ORPHANS

We have had two cases—that sounds almost too professional—to enter the Home who enlisted our deep interest and sympathy. The first was an aged lady, whom we found at the Anne Arundel County Almshouse—a wretched place. She had been there about six months, and was the only white person in the institution. We found her a refined, sweet, patient person, eighty-four years of age, widow of a physician and also the daughter of a doctor. Her father, Dr. John Calhoun, lived in South Carolina, and was a near relative of the great statesman John C. Calhoun. Her husband, in his time, practiced in Washington City, but has been dead many years. The old lady has seen better days, but her friends all died, and, after supporting herself by housekeeping, she finally drifted into the poorhouse. You would be deeply interested in her, for she is so bright and cheerful and so happy. We are deeply pleased to be able to open the Home to her. Such a case alone shows the need of and is justification for the Home. This is one of Mrs. Cordell's "babies."

Now for the other one. At about the time the old lady came we heard of an old doctor, seventy-five years old, out at Bayview Asylum, the Baltimore almshouse. My wife and daughter went out and brought him in. It is a story of too much generosity and improvidence. He had a good income two or three years ago, but broke down and, having no money, family or friends and not being able to get into any other place, he drifted into the poorhouse. This happened about two months before we found him there. Bayview is a horrid place—even this poorhouse of a great city—crowded, filthy, the patients and inmates neglected and hopeless. The man is very feeble, with a bad cough, and he cannot last very long. I think this case will interest you more than the other.

I might tell you of another "case"—of a widow and her little daughter, from Ohio originally, her husband being a graduate of Western Reserve University. For some years she has kept a rooming-house here, but recently she failed, her furniture was sold, and she was put out into the street without money. We took her in and found her very intelligent and helpful. We gave her work and wages. She had been a trained nurse before her marriage and we advanced money to have her registered in the Nurses' Exchange. She appears to be very thankful and happy, and hopes to take up nursing and keep herself up in the world. The little girl—a bright child—goes to public school and is learning music. This lady was contemplating suicide when we found her.

We are very busy getting ready for our Theater Benefit in April.

I have been sick in bed with the grip for the last week and was just up. This is the first letter I have written and isn't what I should like to send you. Mrs. Cordell sends regards.

EUGENE F. CORDELL.

Baltimore, Md.

[This is from a personal letter written us by Dr. Cordell, who, with his good wife, has been working so hard to make a success of the home for the widows and orphans of physicians, located in Baltimore, concerning which we have told you so much in months past. We are sorry that so few of the "family" have responded to the call for help. This is a great charity, a noble one, and every doctor who reads these lines ought to give something for the widows and orphans (yes, and the aged and incapacitated doctors themselves) which these generous people are trying so hard to

Dr. A. R. Hollmann and wife, sailing down a Mexican river

help. Won't you do *something?* Do send a dollar, five dollars, ten. Better attend to it today.—ED.]

CORNS AND CORN-CURES

Corns are an abnormal localized thickening of the epidermis, occurring more often on the feet; but they may also be found on the hands, especially of individuals who do considerable manual labor implying much-repeated pressure. These corns on the feet are produced by anything causing continual pressure or friction, as tight or ill-fitting shoes. A predisposing cause is softness and tenderness of the skin due to lack of exercise and circulation of the blood, so that the toes are easily compressed.

Two varieties of corns (clavus) are recognized: (1) Hard corns, which occur on the exposed surfaces, particularly the upper parts of the toes or on the inner and outer sides of them. (2) Soft corns, which occur between the toes.

Hard corns are more or less conical in shape, and it is the pressure of the apex of this cone upon the papillary layer of the corium that causes the pain and which so often is intense. They may be quite small, or they may broaden out considerably, and they may occur singly or in groups. When neglected, suppuration may occur, and the pus be prevented from escaping by the hardened cuticle; this often causing a good deal of pain and inflammation of the skin and tissues around, which may lead to ulceration.

In order to prevent corns from forming, tight shoes must be shunned. The feet should be bathed in cold water now and again and rubbed well with a dry bath-towel. Walking should be freely practiced. Some of the substances employed for destroying corns are glacial acetic acid, monochloracetic acid, trichloracetic acid, salicylic acid, sodium hydrate, and sodium ethylate.

In my opinion, however, there is nothing better for removing warts or corns than salicylic acid and collodion; for salicylic acid has the property of attacking abnormal or diseased tissue while leaving all healthy tissue untouched. Hence its value in removing corns, warts, and the like, and painlessly at that. The other substances mentioned above may be of some use, but none of them are half so good as salicylic acid. To remove a corn (or a wart) with glacial acetic acid requires patience and time. Following are two approved formulas for salicylated collodion:

1. Salicylic acid.....grs. 15
   Extract of cannabis indica....grs. 8
   Alcohol.....m. 15
   Ether.....m. 40
   Flexible collodion.....m. 75

Paint on three times a day for a week, then soak the foot in hot water and pick the corn off with the finger-nail.

2. Salicylic acid.....dr. 1
   Extract of cannabis indica...grs. 10
   Ether.....drs. 2
   Flexible collodion.....drs. 6

Apply three times a day.

Over the corn apply a plaster with a hole in the center, to relieve pressure.

JOHN C. WARBRICK.

Chicago, Ill.

PUBLICITY FREEDOM FOR DOCTORS

In a recent editorial in CLINICAL MEDICINE these words appeared: "The barriers should be swept away and the physician be given all the avenues of approach to the public, and they to him, which are open between the public and every other man."

I want to use this as a text for a short sermon on medical publicity. I am aware that the editorial from which this is quoted seeks, more than anything else, freedom to use the lay press for the purpose of disseminating useful medical information and incidentally to give certain doctors beneficial publicity. I want to discuss the subject from a broader point of view.

The past and present attitude of the profession has been, and is, hypocritical—we must admit that; and the newspapers have not failed so to judge, and so, too, the intelligent laymen. When local societies pass rulings that doctors' names should be omitted from news stories, then, when many leaders receive newspaper publicity and some even try to sneak in reports of this and that wonderful operation, newspaper editors, recognizing any or all the subtle schemes resorted to by many doctors to gain creditable publicity, cannot help feeling a justified contempt for our ways.

Publicity every doctor must have. In the village and country practice the doctor has only to whizz about a few days in his new auto and show himself in the church and in social and public affairs of his locality to be soon well known and "ethically" advertised. The village and the country doctor, therefore, need no more freedom than they now enjoy. I do not suppose ethics would be offended if the live-wire village doctor should print

booklets of useful information, such as "Hints to Prospective Mothers," "How to Build Septic Tanks for Sewage Disposal," or any other subject of useful medical, sanitary or hygienic information, and on these imprint his card.

Recently I have issued such a booklet, entitled "What You Ought to Know About Doctors," and in this I have sought to teach people to be loyal to their physicians; I have exposed quackery and fake medical advertising, and on the whole tried to make it something of benefit, first to those who read, then to doctors as a whole, and lastly to me, as a bit of personal advertising. If you want a copy of this pamphlet, send postage, and it will come prepaid.

The large-town and city doctor must find his publicity in other ways. It is not my purpose to mention any of the many subtle schemes the hustling city doctor uses for this end. You know all this as well as I can tell you. I only want to say that laymen judge all this effort as a form of hypocrisy; and, in reality, many of these ways and means, such as corporation service, lodge practice, contract practice, medical-service club practice, insurance work, particularly that of industrial and liability insurance, are decidedly unethical, unjust, and wrong, any way you may look at it.

Publicity for the men of national reputation is easy. Newspapers may fill up much space about the doings of a Murphy, a Crile, a Mayo, and so on, but, if the newspaper down at Tompkinstown tells of a new and interesting operation done by Dr. Tinkler at the local hospital, the local society will almost throw Tinkler out for advertising.

If in Youngstown, Ohio, where I reside and do my work, Dr. Hustler buys space and tells the public who he is and what he has to sell, though he does his work far more ethically and honestly, and perhaps as skilfully as any of his colleagues who enjoy "good standing," the good brothers will call Hustler a "quack"; and should he be in the local society, they would kick him out, and if he is out, he must stay out.

It is not to be wondered at that business men say, "These doctors strain at gnats and swallow camels." It is not surprising that lawyers, bankers, and business men look upon medical ethics as a farce. Their personal relations with doctors teach them that we are as keen to get business, to collect good fees of size for our work and to have means whereby to enjoy life, increase our powers for work and improve our abilities as anybody else. Then, why, they ask, need we assume this stilted, mysterious, sanctimonious air of ours, as if we were not business men, but medical high priests who would lose our charm if people only knew we were just human like other folk.

Does the profession enjoy the jokes and ridicule seen in all current literature because of this? Doctors have been the butt of the joke about long enough, and the cure is to shed this cloak of hypocrisy and be just honest, scientific business men, doing business and seeking business by modern business methods, governed by the ethics of the modern business world. In short, let us rationalize medical ethics.

This brings us to an important phase of our subject, the matter of medical-quack advertising. Until now the profession has sought to cure the disease by ignoring it, by condemning it, but injecting into reciprocity non-advertising promises, by expelling members detected in using any sort of paid-for advertising, and by showing a very narrow-minded conception of the situation generally.

The cure for quack advertising is a case of "fighting fire with fire," for the cure is advertising. It may seem homeopathic, but it will do the business. Remove all ethical barriers from the professional use of bought-and-paid-for publicity, and you will soon teach the people to discriminate against dishonest medical advertising, just as they now do against dishonest mercantile advertising. They will soon demand national law to protect themselves against it, just as the lottery business was cured. They would make newspapers a party to any fraud published in their pages and the result would be clean, honest, useful medical advertising, just as is now done by bankers and merchants.

The cure for quackery lies deeper than the ethical rule against advertising. What will cure the quackery within the ethical ranks will also cure that on the outside. The only cure for dishonest work, grafting methods and all trickery is some legal authority to censor a doctor's business affairs, just as banks are now inspected. This would mean, when a doctor was found doing dishonest work or using his license for a private graft, it would be revoked.

Nine of ten advertising doctors are almost daily guilty of obtaining money under false pretense, yet how few are disturbed. How little is done by the organized profession to clear the name of doctor from all this reproach. What have we done to stop the nostrum trade, which every day uses the newspapers as a party in a conspiracy to gain

money from the gullible sick? What are we doing about all this?

We are still calmly wearing our cloak of ethical punctiliousness and saying over and over again, "Medicine is a profession, a dignified profession, not a business." No, it is not a business, it is a mysterious profession, still impregnated with the mummery of medieval priestcraft.

However, the strong exploit the weak. Specialism makes trade drummers out of the general doctors and bribes them with commissions. Surgeons split fees to salve the family doctor's conscience, and medicine has become as much a game of wire-pulling and sharp practice as politics itself.

Four years ago, having these convictions fully settled, I began to tell the people who I was and what I had to sell. I exposed medical quackery and advertising pirates as fully as I could. Several fakers have had to leave the town for want of business. It is now a much poorer field than formerly, and the newspapers—so the advertising managers tell me—are on the point of excluding all fake medical advertising. Still, the local society has not as yet passed a resolution thanking me for my efforts.

If medical men would take the right attitude, editors would gladly employ medical skill to pass editorial opinion on all medical advertising offered to them. Laymen are doing more to destroy this evil than the doctors. In fact, the doctors are doing nothing. (See *Journal A. M. A.*, Jan. 11, 1913, page 134.)

We could easily educate the public to demand protection by proper laws against fraudulent advertising and against dishonest practice. This would easily remove the barriers mentioned in our text. The day of quacks, both ethical and unethical, is nearing its end.

Doctors are not awake to the signs of the times—but it is surely coming—that medicine will do a little Augean stable cleaning that will benefit both the doctors and the people.

C. ELTON BLANCHARD.

Youngstown, O.

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[Dr. Blanchard's article reads well—but, after all, it is an apology for physicians' advertising. That it is an able apology we can readily admit. The Doctor makes out a good case for "ethical" advertising, and if all medical publicity could be done and would be done on the high plane that he suggests all might be well. The trouble is that practically every man who starts in to advertise, while he may have the best of intentions and may be determined to present himself in a perfectly clean and ethical way, sooner or later is almost sure to degenerate, telling his story in a quackish way, claiming the impossible, promising miracles, deluding the unfortunate—in fact, ends by becoming a quack, pure and simple. Why is it that practically every mother's son of a doctor who starts out to make his living by printer's ink rather than by his own skill starts sooner or later to go downhill? There are a few men, like Doctor Blanchard, who may do clean newspaper advertising, but for the overwhelming majority it is dangerous.—ED.]

POETRY AS A SUBSCRIPTION "PULLER"

Not long ago, in order to encourage promptness in renewing subscriptions to CLINICAL MEDICINE, we sent out with our regular billing some copies of the poem that follows:

How dear to our heart is the steady subscriber
Who pays in advance at the birth of each year,
Who lays down the money, and does it quite gladly,
And casts 'round the office a halo of cheer.

He never says: "Stop it; I cannot afford it,
I'm getting more journals than now I can read."
But always says: "Send it; we doctors all like it—
In fact we all think it a help and a need."

How welcome his check when it reaches our sanctum;
How it makes our pulse throb, how it makes our hearts dance.
Outwardly we thank him; we inwardly bless him—
The steady subscriber who pays in advance.

Now note the response! Not only did many send in the money promptly, but quite a number of our readers replied in kind—with verse. One of our friends wrote us that he had no desire—

"To hear from a manager, so often, so green,
To dun old subscribers"—

yet the doctor assured us that he wasn't going to have his journal cut off, just the same. Lack of space only forbids our giving more of this poetry. However, there are two contributions that we must print, and here is the first one:

Perhaps I am classed as a steady subscriber,
As I've taken your journal for several years,
And nothing on earth except lack of "mazuma"
Would cause me to fail and fall into arrears.

I look for its coming with anticipation;
I'm peeved and disconsolate when it is late;
I cannot afford to miss even one number;
Without it, I feel that I'm not up to date.

Send again, Doctor Abbott, this fountain of knowledge,
Whose pages your efforts so greatly enhance,
I wish you long life and complete satisfaction.
Your work is well done—here's a check, in advance!

LUCIEN D. CLARK.

Akron, O

We hope—and we believe—that there are many thousands of other readers of CLINICAL MEDICINE who feel just as Dr. Clark does!

Another steady reader sent us the following parody upon the subscription verse, as follows:

How dear to our heart is the ready-pay patient
Who settles right up at the close of his case;
Who lays down his money, and does it quite gladly,
And is grateful that we beat out death in the race.

He never whines, "Stop, I cannot afford it;
No need of these visits—I'm on to your trick";
But always says, "Come, I want to get better—
And keep right on coming as long as I'm sick."

How welcome his money, how much it relieves us
To think that it came without even a dun;
We outwardly thank him, we inwardly bless him—
The ready-pay patient who is prompt with the "mon'."

W. D. P. LESTER.

Indian Fields, N. Y.

May we, oh may we, hope that some of the few who read CLINICAL MEDICINE and happen to be in arrears for their subscription, may make a special effort to hustle up collections—and "be prompt with the 'mon' "?

A NEW CONSUMPTION CURE

Considerable stir has been made in Chicago by a new method of treating tuberculosis, devised and introduced by Dr. Peter P. Duket. This has attracted a good deal of attention, especially because it has received the financial support of the Hon. William Lorimer, formerly United States Senator from Illinois. Briefly, the matter stands as follows:

A few months ago Dr. Duket came to Chicago and soon after brought his method of treatment to the attention of the Rev. James F. Green, head of the Augustinian order of the Catholic Church in Chicago. The method was tried upon a number of patients, the first being a young priest in an advanced stage of tuberculosis. This young man, after seven months' treatment, has gained fifty pounds in weight and now seems to be well. The method has been put to the same test on eighteen other patients, some of them far advanced, and of these it is alleged that twelve are practically cured.

Becoming enthusiastic over Dr. Duket's results, Father Green took up with Ex-Senator Lorimer the problem of interesting the medical profession. The Senator was so well satisfied with what he learned that he is now supplying funds for the establishment of a laboratory in connection with St. Rita's College, to be known as St. Rita's Laboratory for Tuberculosis, where the Duket treatment can have a thorough trial under scientific conditions. This laboratory is to be operated in connection with the Medical Department of Loyola University (Bennett Medical College). It is said that Senator Lorimer has agreed to provide any amount of money required for its maintenance, up to one million dollars.

St. Rita's Laboratory is to be headed by that able pathologist and research-worker, Dr. Maximilian Herzog, well known to every Chicago physician, and formerly government pathologist in the Philippine Islands.

REMOVING WARTS WITH FOWLER'S SOLUTION

I notice in the "Condensed Query" column of the January CLINIC that Max J. Walter recommends the removal of warts on the eyelid by means of electrolysis. Let me say that a few applications of Fowler's solution of arsenic on a bit of cotton or a swab on the end of a match or a camelshair pencil will do the trick. Three or four applications daily for a week or so will cause the wart to shrivel and drop off.

GEORGE D. STANTON.

Stonington, Conn.

OUR LONDON LETTER

At a meeting of the medical section of the Royal Society of Medicine on January 28, Dr. F. Parkes Weber, physician to the German Hospital, London, reported a series of five cases in which patients who were undergoing arsenical treatment developed a mild form of pneumonia. The relation between herpes zoster and arsenic is well known, and Dr. Weber suggested the possibility of a similar connection between pneumonia and arsenic as worthy of investigation.

This recalls attention to an old clinical belief that the presence of herpes labialis is always indicative of the existence of a pneumonic process, although it may be very mild and localized and almost impossible of detection by clinical means.

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Doubtless you have had enough about the Insurance Act, but a few of its achievements may be of interest. The Act has been in operation now nearly one month, and thus

far it has on record to its credit six deaths (in four of which inquests were held) in which the patient had inadequate attendance and sometimes none at all, due to the pressure of red-tape and clerical work thrown on the "panel-doctor." This clerical work alone absorbs several hours daily of each panel-doctor's time in an industrial district, with the result that he has little chance to attend to his proper duties, which are perfunctorily done in consequence. Several doctors complain that they have lost most of their private practice; for, of course, insured patients have the prior legal claim upon the doctor's time and services.

Quite often clerks had to be hired by the doctor to do the clerical work, or the doctor's family have been pressed into service. The death of three doctors is known to be due in a measure to overwork or worry caused directly or indirectly under operation of the Act.

Practices, once a salable asset of capital value, are now for the most part unsalable where they lie to any extent among the industrial population. A Dundee doctor worked out his first fortnight's work, and found that the remuneration was at the rate of 9 cents (4½ pence) a visit. Doctors practicing in industrial, ready-money districts, instead of receiving cash, now have to wait three months for their pay. As a consequence, some of them have already appeared in the debtor's court.

As was to be expected, it is found that the doctor's services are in fact requisitioned for the most trivial things—one doctor complains that he was called upon to cut a patient's corns! Consequently the amount of work is enormous in industrial districts. A Nottingham doctor had to attend 62 of his insured clients in one day. That, however, is nothing to one Dr. Jelley, in the East End of London—"the threepenny doctor" he used to be called, from his fee before the Act came into operation. This doctor testified at an inquest, with pride, that he had attended 433 patients in one day, and he liked it! Quantity, not quality, evidently weighed with him.

As to the patients, they complain on all hands that the aged and infirm are worse off than ever. There no longer are any club-doctors, and they can not be insured. Even persons who are insured and have paid up their dues have had to fall back on the workhouse infirmary in some instances. In others, they are bandied about between hospital and panel-doctor; the latter insisting upon referring them to the hospital, which in turn holds that their's are only ordinary cases coming "within the competence of a general practitioner" and therefore refuses aid.

Many reports are forthcoming that several days elapse between the call for attendance and its provision. Others, insured persons, willing to lose their medical benefit and continue with their own doctor (not on the panel) who has, perhaps, attended them for years, and to pay his ordinary fees, find they cannot do so, because his certificate will not be accepted for sick-pay unless he complies with all the red-tape servitude, the abhorrence of which is his main reason for refusing to go on the panel.

The hospitals everywhere are complaining of a serious decrease in their incomes. Large employers of labor who have hitherto given generously are now heavily taxed by the Act for medical attendance upon their employees; they naturally refuse to pay a double amount. Employees who are now taxed for medical attendance equally naturally refuse to go on subscribing to hospitals. Large hospital funds and collections have seriously fallen off, one fund alone to the extent of $350,000. Meantime, the compulsory cost of insuring their employees adds some thousand dollars a year to the expenses of the hospitals.

Lastly, there is already a serious diminution in the number of entries at the medical schools. And except, perhaps, as regards the possible simplification of the clerical work, it is my belief that all these difficulties will greatly multiply instead of diminishing with time, unless the Act is radically amended. The moment the medical man's freedom is fettered by rules and regulations his utility is seriously impaired. The conditions in the military and naval services which have been adduced as a counter argument are in no sense comparable. There, the individuals are not the free agents, but parts of a machine subject to discipline. It is impossible to reduce the population of a country permanently to that status.

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Thus far the House of Lords has contained but two medical men, Lord Lister and Lord Ilkeston, and both have died within the past twelve months. Lord Lister's peerage was granted solely upon his scientific merits, which are known to the whole world. Lord Ilkeston, although as Sir Balthazar Walter Foster he was a physician of some distinction, owed his peerage rather to his political than to his scientific achievements.

He began his political career as a member of the municipal council of Birmingham in 1883, in which city he was a prominent physician. He entered Parliament in 1885 in the Liberal interest, where he remained, save for one year, until 1910, when he was raised to the peerage as Baron Ilkeston. Although he soon found a parliamentary career incompatible with active performance of the obligations of his profession, from which, therefore, he gradually withdrew entirely, his professional knowledge was always at the service of the House, and by conscientious attention to duty as a direct representative of the medical profession on the General Medical Council of Education and Registration he continued to uphold the interests of the profession. He was the first medical man who ever became a member of any political administration, being appointed, by Mr. Gladstone, in 1892, parliamentary secretary to the local Government Board. In 1905 he was made a privy councillor.

It has been a subject for remark that of those leading members of the medical profession in Great Britain who attain hereditary rank, in very few cases, indeed, does the eldest son and heir follow in his father's profession. The new Lord Ilkeston, the Hon. Balthazar Stephen S. Foster, is a barrister and stipendiary magistrate for Birmingham. An exception to this rule is Sir John Broadbent, Bart., son of the late Sir William Broadbent. Like his father, Sir John Broadbent is a medical man, and, like him, also is a physician to St. Mary's Hospital, London.

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At the Central Pow Law Conference, held on February 11 at the Guildhall, London, Major Leonard Darwin, who is president of the Eugenics Education Society, in a paper devoted to mental deficiency inveighed strongly against the present state's fostering of mental defectives. He urged that, by compelling the parents of the normal child to feed him and supply him with boots to walk to school in, while the mentally defective child was carried to school, fed there, and supplied with boots, was putting a premium on race suicide among the best elements, and on unrestricted procreation among the worst in the community; for the lessening of the strain on the parents of defectives must certainly tend to promote the fertility of the class. He held that, in the case of a strongly defective stock, no relief, charitable or otherwise, should be given to parents outside of the workhouse (which, of course, implies separation of the sexes) until they had passed the capability for procreation.

He expressed the hope that in time "better means of racial regeneration would be both discovered and sanctioned by public opinion." For the present, the main hope lay in dealing with the feeble-minded child from infancy onward, so as to prevent its procreating in adult life. Institutional experience demonstrated beyond doubt that a large proportion of the mentally defective remained contented while under control, but with freedom came only misery and disgrace.

There can be little doubt that the crux of the situation rests in the obtaining of the sanction of public opinion for the employment of effective measures against procreation. It is a thousand pities, from an educative point of view, even apart from its effective power, that the Mental Deficiency Bill, being only a measure of true statecraft, should have had to be sacrificed by party exigencies to merely political measures, such as have almost exclusively occupied the attention of the present parliament.

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A very interesting and exhaustive summary of the literature on the therapeutic action of splenic extract and its application in the treatment of tuberculosis, by Dr. Henry Hanover, formerly of Chicago, appears in *The Lancet* for February 22, 1913. Dr. Hanover sums up his article, which has elicited very favorable opinions from some of the most noted English therapeutic authorities, as follows:

"The use of splenic extract has been advised in several diseases, and it is believed, not only on general theoretical and experimental grounds, but from actual clinical experience, that it is useful in tuberculosis, and that its value is presumably due to certain splenic hormones, on which, in a degree, the following phenomena are dependent:

"1. The defenses of the blood; leukocytosis, phagocytosis, and, possibly, hemoglobin formation and iron metabolism. (2) Tryptic digestion, thus directly increasing assimilation and nutrition, permitting an increased intake of food, and indirectly relieving the emunctories from the excessive work common in toxemia and suboxidation. (3) Intestinal digestion and the production of enterokinase. (4) The process of healing, both as regards the prevention of hemorrhage and the stimulation of rapid connective tissue production. (5) Antagonism to the tubercle bacillus by an influence on its culture-medium, due to the production of a certain colloid

substance (Bayle). (6) And, finally, the function of the spleen itself."

"M."

London, England.

A CHAIR IN GERIATRICS

For many years this journal has been insisting upon the differentiation of a group of pathologic conditions peculiar to old age, just as we differentiate a special class of diseases in childhood, and has urged that there be established a special literature and a clinique dealing with the subject under the title of geriatrics. It is gratifying to learn that a step in this direction has at last been taken, in the establishment of a chair of geriatrics by an eastern medical college. The College of Physicians and Surgeons of Boston, Massachusetts, has just instituted such a chair, to which it has appointed Dr. I. L. Nascher, of New York, who will give a systematic course of lectures and clinics on diseases of the aged.

So far as we are aware, this is the first public recognition of geriatrics as a special branch of medicine, and we congratulate the Boston school upon its pioneer step. We also congratulate it upon its wise choice of a man to administer the chair. Dr. Nascher has given a great deal of study to this subject; indeed, his personal work and teaching have been a large factor in obtaining for it recognition as a specialty; and he is peculiarly fitted to represent it in a teaching institution. Under his tutelage, we look for geriatrics to become a broad, practical phase of the science and practice of medicine.

COMPARATIVE VIRTUES OF SWEAT-BOXES

I have just read Dr. A. H. Chandler's article upon "Vinegar for Hot-Pack Sweating" in the January, 1913, issue of CLINICAL MEDICINE. I am satisfied all he says is true, but I don't think this method of producing diaphoresis would be approved of by the average layman. In my opinion, a much better plan would be to use a vapor-bath cabinet and vaporize the vinegar over the lamp in the cabinet; in other words, give an acetic-acid vapor-bath. This would be looked upon by the average layman as being more scientific and, I believe, would give a physician more prestige than to use hot bricks and vinegar in the bed. Portable vapor-bath cabinets can be had anywhere.

The vapor-bath inside a good cabinet is very important in many conditions. The superheated-air apparatus is still far in advance of the vapor-bath cabinet. Dry hot air can be tolerated up to 500° F., and much more can be accomplished with such an apparatus than with a vapor-cabinet. The latter has only one advantage over the hot-air apparatus, and that is, it is portable, while the other is not. Dr. Chandler's bricks or rocks, however, could be obtained in almost any place, which would be worthy of consideration when the vapor-cabinet was not at hand.

The superheated-air apparatus is superior, for the cure of disease, to the electric-light-bath cabinet, the therapeutic lamp, vibrator, galvanic or faradic electricity, and all other common apparatuses in use. It has as wide range of action in acute diseases as well as in chronic conditions.

J. A. BURNETT.

Hartshorne, Okla.

MERCURY SUCCINIMIDE IN GLANDULAR TUBERCULOSIS

I have wondered how the "family" treat glandular tuberculosis. In a series of twelve cases I have not had one failure. I inject the succinimide of mercury, 1-10 grain, intramuscularly once a week. Six or eight injections usually suffice. In pulmonary tuberculosis it is not of much value.

C. A. BEVAN.

West Haven, Conn.

THE SIGNIFICANCE OF PAIN IN THE SHOULDER IN APPENDICITIS

In the *Therapie der Gegenwart* for November Dr. Lochmann relates two cases of appendicitis in which severe pain was complained of in the right shoulder. Without an attempt to explain this peculiar localization of pain, the author cites Prof. R. Schmidt to the effect that pain in the shoulder which is caused by lesions in the abdomen may be due to inflammatory processes in the liver, stomach, spleen or their surroundings. The sensation of pain is transmitted through the phrenic nerve. It appears, therefore, that the extension of the inflammation from the appendix to the peritoneal covering of the liver is responsible for this severe pain in the shoulder which the author observed in his two cases.

ATROPINE IN PNEUMONIA: A QUERY

As we all know, in the presence of all internal congestions, atropine seems rationally indicated. It is employed when the organs

of the abdomen are involved, and it is recommended in instances of this sort. The theory upon which atropine is used is, that it determines the blood to the peripheral circulatory system and thus relieves the internal congestion. In inflammatory processes of the upper air-passages, such as laryngitis, pharyngitis, coryza, and tonsillitis, we know that, when atropine is administered early, we generally succeed in aborting the condition. We have learned, through the experience of the many, that a full dose of atropine, hypodermically, will, through determination of the bulk of the blood to the surfaces, not infrequently is able to overcome internal hemorrhages.

Recognizing these truths, we would ask why it is that this agent is not employed to a greater extent in the treatment of congestions and inflammations of the thoracic respiratory organs. Why cannot an attack of pneumonia, when seen in the early stage, be aborted by a few full doses of atropine or by smaller doses given at frequent intervals and pushed to effect? Why cannot an acute bronchitis be either aborted or abated through the use of this drug, pushed to effect? The textbooks say that under certain conditions atropine may be employed in this class of respiratory diseases. If the drug is indicated in the congestions and inflammations of the abdominal organs, as well as of the pelvic organs, and employed in this connection with success, why is it not as thoroughly indicated in such processes within the chest? The writer never has used the drug in this connection, but it certainly does seem that the indication for such application is a plain one.

If, as in the inflammations of the upper-air passages, atropine will give as prompt and satisfactory results in such conditions of the lower portions of the respiratory organs, we believe that it will be possible to abort practically every attack of pneumonia or bronchitis encountered sufficiently early in the course of its development.

Atropine will surely serve to equalize the circulation in these conditions exactly as it does in the inflammatory processes of other organs. It will serve to "bleed" the internal apparatus, through determination of the blood to the external capillaries. If atropine is indicated in nonspecific conditions accompanied by cold, clammy surfaces, why is it not indicated in the chill of pneumonia, and why will not a full dose of it serve to put a short stop to the congestion of the lung-tissues? It does seem that such an initial proceeding would be indicated in practically every case of pneumonia met with; that it would be rational.

It is not contended that the treatment should stop with the administration of the atropine or that other indications should be overlooked; but, with the determining of the blood to the surface, we believe that the subsequent remedies employed—as aconitine, veratrine, and the other indicated drugs—would have a better opportunity for action. The atropine would serve to pave the way, by removal of the obstacle of superabundance of blood; and, this done, it seems rational that it would be a much simpler matter to control all of the symptoms and conditions usually present.

Through prompt removal of the excess blood, the local temperature undoubtedly would be lowered and the microorganisms would not, in our opinion, flourish as when the congestion is allowed to go on and on, with the usual increase in severity. This interference would mean a lower proliferation of the invading organisms and a corresponding lessening of the toxins of a specific character. We do all this, to a certain extent, with our aconitine and veratrine, through the control of the temperature with these drugs, but they do not act with the rapidity or thoroughness of full doses of atropine, even though they are usually effective.

With atropine, administered to full effect early, we believe that the pleurisy and other inflammatory complications so frequently accompanying pneumonia will be done away with, inasmuch as the inflammatory process will not reach the pleura.

We believe that, with the administration of atropine as suggested, there will be less likeliness of the toxemias so frequently encountered in connection with the diseases mentioned, particularly pneumonia, as fewer toxins will be produced and fewer absorbed if the circulation is equalized.

As we have said, this is simply a theory, a mere speculation, an idea which we have not as yet had opportunity to try out since it has taken shape in the writer's mind. However, it looks reasonable and we should like to hear the opinion of the editor, as well as of others, upon this matter.

The whole theory, as here presented, resolves itself into the idea of circulatory balance, or equalization, and that done with rapidity, and the fact that it has been determined that atropine does this in inflammations of organs other than those of the chest. We sincerely hope that the readers of CLINICAL MEDICINE will not fail to dis-

cuss this problem freely, pro and con, in all its various aspects. GEORGE L. SERVOSS.

Gardnerville, Nev.

AN AUTOMOBILE EXPERIENCE

Thinking my experience with an automobile, purchased new in 1911, was unusual, I submitted a list of questions to all of the physicians of the city of Elgin, Illinois, designed to elicit, in detail, their actual experience with cars of many makes and varying in price from the lowest to the better grade of cars. For, having suffered the loss of the use of my car for two winters, whenever the weather approached zero or below, and five-months' time out of service for necessary repairs, I began to think that such a car was defective, especially as the loss of service was evenly divided over the time.

When you experience breakdowns in motor, differential, wrist-pins by the dozen, transmission, electrical equipment, steering-head, and bearings in absolutely every part of the machine needing replacement, all within ten thousand miles, it is an indication, in my opinion, of poor material, combined with very bad designing. Now associate, if you please, with this combination of affairs a statement from the company's officers, in Chicago, that "we are in no way responsible, but the trouble is due to your local garage-men who repaired the car, and that you should hold the latter responsible." This is my experience with a "Studebaker 30." Two other physicians owning Studebakers, on the above list, had the same trouble with their first cars, but having threatened suit upon the guarantee, the proper adjustment was then made upon a different model. I was "jollied" along until my year had expired, thinking that each repair bill would be the last. Moral: If you do not get a good car, get action before the guarantee expires.

No matter what grade of car you purchase, it is liable to develop some weak part, and on the willingness of the selling concern will depend your motor service and satisfaction.

Inquiry among your friends who are actual users of motor cars is the most dependable course of information in regard to any car; and, as a matter of fact, it is more dependable than that of agents and manufacturers. In the list of questions, and the answers thereunto, hereinafter appended, the all-around service, expense, and dependability of the various cars named is covered as far as it is possible. Lack of dependability, especially to the physician, is as aggravating as unusual cost and upkeep, and means the loss of valuable time and practice, for people will not call in a doctor who can not respond promptly when needed.

If a car is hard on tires, it is an important item, and I can assure you, from my own actual experience, that the tire manufacturers will give you but scant courtesy after the first few adjustments. They do not want you to use their tires on any machine that will not deliver at least 3500 miles. When you are contemplating buying, the important matters to inquire about are these: the equipment, and particularly as to the carburetors, electrical outfit, steering-head, cost of fuel, and the general expense of the upkeep and repair.

What satisfaction, if any, did the persons whom you know have with their car and as to the matters above noted? Does the agent handling the car give you correct advice and is he ready to make good the claims that he so loudly proclaimed he would do if you bought his car. "Look before you leap" is a good thing to have in mind when you buy a car, for the future use and enjoyment of your car depends on your forethought.

J. A. S. HOWELL.

Elgin, Ill.

CIRCUMCISION OR PREPUCE SPLITTNIG?

In your February issue of CLINICAL MEDICINE, A. R. H., California, wants to know what is the most satisfactory local anesthetic for use in circumcision, and I want to answer him by asking, Why circumcise anyone?

Our professor of surgery, the late W. F. Peck, in a lecture thirty years ago told the class that circumcision was a relic of barbarity that should have been abandoned long ago. His method was, simply to slit the foreskin on top far enough to release the glans and then let nature take care of it. He stated that the apparent redundant foreskin was simply a lack of development of the penis, caused by the imprisonment with a too narrow foreskin.

I have employed Dr. Peck's method with entire satisfaction, but we now have a much better way, namely, that of dilating the foreskin—which is the ideal way of treating this condition. But once in a while one meets a case where there is a hard, rigid band in the foreskin that can be dilated only with great difficulty and which if forcibly dilated will contract again. Under these circumstances I still resort to slitting open by the Peck

The Tabulated Automobile Experiences of Elgin (Illinois) Physicians

MAKE OF CAR	Horse power	Age of car	List price of car	Total cost of maintenance	Cost of repairs	How long was car out of service for repairs?	Do you consider service and guarantee of manufacturers satisfactory?	Service by agents satisfactory?	Maintenance cost excessive?	Do you consider car hard on tires?	Total car mileage	Average mileage per tire	Number of times disabled on road?	Do you consider equipment, such as carburetor, magneto, etc., satisfactory?	Do you consider motor, transmission, etc., efficient in service?	Did you ever own a former model of same make and was it satisfactory?	Owner's name All of Elgin, Ill.
Ford.....	20	Two years	$780	Very moderate	Nothing	Six hours	Yes	Yes	No	No	8500	5200	Not at all	Yes	Yes	First car owned No	Dr. H. H. West
Ford.....	22	Two years	800	$225 per year	$20	Two days	Yes	Yes	No	No	15,000	5000	Never	Yes	Yes	No	Dr. G. J. Schneider
Ford.....	18	Four years	800	Very moderate	About $20	One month	Yes. Have not tested guarantee.	Yes	No	No	7000	5000	None	Yes	Yes		Dr. H. L. Pratt
Ford.....	20	One year	600	Moderate	Nothing	Not at all.	Yes	Yes	No	No	3000	Satisfactory excepting Goodyear	Never	Yes, except original tires, which were Goodyear	Yes	*a*) Yes *b*) Yes	Dr. E. A. MacCornack
Ford.....	18	1907	500	$25 per month	Moderate	1 month in 3 years	Yes	Yes	No	No	Don't know	10,000	Twice	Yes	Yes	No	Dr. E. H. Abbott
Ford.....	22	1910	1000	Reasonable	$200 in in 2 years	1½ months	Yes	Yes	No	No	22,000	10,000	Five times	All but Carburetor	Yes	No	Dr. H. J. Gahagan
Studebaker..	20	1912	900	Reasonable	No repairs as yet.	Never	Have not yet asked for repairs.	No	No	Yes. Tires too small on front wheels	5000	2000	Never	All except Carburetor	Yes	Yes, and it was not satisfactory	Dr. J. R. Tobin
Studebaker .	20	1912	800	Moderate	Moderate	Three weeks	Decidedly no	No	No	No	Over 3000	About 2000	Twice	Yes	Yes	*a*) Yes *b*) No	Dr. H. G. G. Schmidt
Studebaker .	30	1911	1100	$961.90	$384.35	Five months	Decidedly no	No	Yes	Yes	10,000	2000	Many	No. Carburetor fails in cold weather; magneto poor	No. Motor weak; frequent breaks many replacements	No	Dr. J. A. S Howell
Overland....	32	1911	1700	.....	35.00	Two days	Yes	Yes	No	No	10,000	5500	Never	Yes	Yes	First car	Dr. F. C. Schurmeier
Overland....	45	1912	1650	Moderate	Moderate	Not at all	Yes	Very	No	No	6500	Front 6500 Rear 5200	None	Yes	Yes	*a*) Yes *b*) Yes	Dr. W. S. Brown
Hudson.....	20	3 years	1150 stripped	Moderate	None	Three weeks	Perfectly	Yes	No	No	19,000	4500 to 7000	Never	Very	Yes	First car	Dr. O. L. Pelton
Chalmers....	36	1 year	1900	Very moderate	None	Not at all	Yes	Yes	No	No	5500	4000	None	Yes	Yes	First car	Dr. O. L. Pelton Jr.
Cadillac....	30	1910	1600	Reasonable	None	Never	Yes	Very	No	Fair	23,000	4000	Once	Yes	Very	First car	Dr. L. J. Hughes
Franklin....	18	1909	1850	Don't know	$150.00	Two weeks	Have not received any consideration	See above	No	No	20,000	3000 to 4000	None	Yes	Yes	No	Dr. James Campbell
Reo	30	1912	Coupe 1600	Gas & oil only	None	Not at all	Yes	Yes. fine	No	No	3000	Satisfactory	Never	Yes	Yes	*a*) Yes *b*) Yes	Dr. H. W. Dueringer
Maxwell....	22	1911	750	Economical	$1.50	Never	Yes	Yes	No	No	9000	5000 to 7000	Never	Carburetor might be better All else good	Yes	No	Dr. Thos. E. Macauley
Cole.....	32.5	Two years	1800	Very moderate	None	Never	Most decidedly yes	Yes	No	No	6500	4000	None	Very satisfactory	Yes	No	Dr. C. A. Sisson
Stoddard Dayton.....	48	1911	2750	.....	Nothing	Not at all	Yes	Yes	Yes	No	.....	.....	Never	Yes	Yes	No	Dr. J. G. Tapper
Oakland.....	30—35	One year	1500	Slight	Do not know	One-half day	Yes	Yes	No	No	3500	4000	Never	Entirely so	Yes	*a*) Yes *b*) Yes	Dr. W. C. Bridge
Jackson.....	30	3 years	2000	$40 per month	No repairs	Only when cleaning	Yes	Yes	No	No	.....	Satisfactory	Never	Yes	Yes	No	Dr. J. F. Bell
Buick.....	30	1913	1285	Moderate	Nothing	Not at all	Yes	Yes	No	No	1000	Don't know	Never	Yes	Yes	No	Dr. F. H. Langhorst

method, even in adults, for I have found that the results after a year or so are far better than if the best classical operation had been done.

One such case, that of a young man of twenty-five, came under my care and the man insisted that I circumcise him, as several of his friends had been by a great surgeon—at fifty dollars per. I finally yielded to his wish. He had a very small penis and a long foreskin. I used a local anesthetic, did the classical operation, and got a first-class result. About a year and a half later I saw this man again, and the virile organ, released from its long imprisonment, had grown to normal size.

So I wish to repeat: Do not mutilate your patients. Dilate their foreskins and, if they will not yield, slit them open, all of which requires no anesthetic at all.

W. A. MARNER.

Miles, Ia.

PREVENTION OF QUININE-RASH. A BOOST FOR "THE CLINIC"

On the inside of the cover-page of your journal, I see this notice: "For every new subscriber you can send us, your own renewal will be advanced one year." Now, I am not going to take advantage of that announcement to put this excellent journal into the hands of a good doctor if he has not already become acquainted with it and so I refrain from taking any of the premiums you offer.

Your journal, CLINICAL MEDICINE, is the most *readable* and therefore the most instructive journal I know of. It combines the qualities of a first-class magazine with those of a medical journal of the same class. Many medical journals are so extremely statistical that they remind me of the agricultural bulletins, and one cannot help but think of balanced rations, and there comes up before him a vision of protein, carbohydrates, fats, solids, and so forth and so on.

In one of the numbers, some time ago, there was some discussion of the prevention of the urticaria produced by quinine. I will say that I have no trouble in preventing this annoying sequel when I know the idiosyncrasy exists, or in relieving the condition when it occurs. The bromide of potassium or of sodium, 15 or 20 grains given with each dose of quinine, will effectually keep off the complication of urticaria.

One French lady, whom at one time I had relieved with the bromides when she was covered with wheals five and six inches in diameter and raised one-eighth of an inch, asked me on another occasion when it became necessary to give her quinine whether she could not take some tea—"just regular store-tea"—with each dose, saying that that would prevent the rash. There being no objection, she took a cup of tea with each dose of quinine—and *there was no rash!* Here is a stimulant doing the same thing as a sedative. Is it the caffeine in the tea or has the tannin anything to do with it?

Just a word in regard to quinine. When "Socry sot the hen" and fell in the barrel he was standing on, he remarked, "The next time I gets a barrel I gets a box." I feel somewhat that way as to quinine. When I use quinine, I do *not* use it, but give cinchonidine, the sulphate, instead. That allied alkaloid does not fail to produce the rash in those susceptible, but that very disagreeable roaring in the head and the deafness produced by quinine does not occur when the cinchonidine is used. When this fails to get results, quinine will surely fail also.

E. B. YOUNG.

Baker, La.

WAS IT OSTEOSARCOMA?

Here is the case of a woman 41 years of age, whose family history is negative. She enjoyed perfect health until twenty-one years of age, at which time she had a bad tooth extracted by a dentist, but not before an abscess had formed. Soon after the extraction of the ulcerated tooth there began to form a small tumor on the inner side of the buccal cavity, which was very hard in character. This swelling was lanced by a physician, but the woman claims that there was no discharge from the tumor, which soon healed, but kept on growing. I could not find out which tooth was extracted, there being no teeth left, but it must have been the third molar. Nothing more was done to it, as she joined a religious sect and did not then believe in physicians. I was called by relatives only three weeks before she died.

At the time I was called I found the woman very much emaciated and in pain. Both lower extremities were edematous and would pit on pressure. There was marked anemia. Anorexia was present, and when she did eat she took only liquid diet and water. She had diarrhea most of the time. Her general health was bad, of course.

The tumor in the mouth I found to be of a fibrinous character, with three suppurating points, one on the inside and the other two on the outside. The pus issuing was of a

deep-yellow color and had a very bad odor. (I had no microscopic examination made, so cannot say that there was no tuberculous conditions.) The tumor seemed to be encapsulated and the growth was from the periphery. The inferior maxillary bone was completely necrosed, as was part of the superior maxillary bone. All her teeth came out, one at a time. None of them were pulled.

Osteosarcoma of the jaw

The patient had five children and the youngest one was only five years old. All were perfectly healthy and there was no history of any tuberculous trouble on either side.

If anyone should desire any other information about this case, I shall only be too glad to answer inquiries. L. H. MARTIN.

Melbourne, Fla.

SURGICAL DISEASES OF THE SKIN—A SERIES OF CLINICAL LECTURES

We have just learned that Dr. L. Duncan Bulkley, of New York, is to give a course of clinical lectures and demonstrations at the New York Skin and Cancer Hospital on Second Avenue, corner of 19th Street, New York City, every Wednesday afternoon from April 2nd to May 7th.

Each lecture will be illustrated by cases, models, colored plates, photographs, etc. The course will be free to the medical profession. Those who can plan to do so certainly should attend this fine course of lectures.

ILLINOIS DOCTORS—DANGER!

Just as we are going to press we learn that in House Bill 210, now pending in the Illinois Legislature, there are provisions that may work harm to the medical profession of the state. This bill is addressed against misbranding of drugs, false and fraudulent statements in advertising medicine, and the abuse of narcotics. It seems possible that there is a "joker" in the sections on narcotics (Sections 9 and 10), which forbids the sale of cocaine, opium, morphine, codeine, heroin, etc., except upon a physician's prescription or order. There seems to be no distinct proviso in this bill that the physician may carry and dispense these remedies himself, without the writing of such prescription or order.

We have not yet had time to give the bill a careful study, but we suggest that every Illinois physician write his legislators to insist that the physician and veterinarian are distinctly authorized to carry and administer these drugs to their patients without unnecessary interference.

Better attend to this matter immediately.

THE NEW KANSAS PHARMACY BILL

Last month (see page 275) we referred to the new Kansas Pharmacy Bill, at that time pending in the State Legislature, calling attention to some of its defects and dangers.

This bill finally passed the state legislature, but we are happy to say that some of the most objectionable features were removed prior to its passage, among them the provision requiring every dispensing physician to write a prescription every time he administered a remedy.

Our friends in Kansas got busy at once, and the modification of the bill is undoubtedly due to the energy with which Kansas doctors protested against its passage as submitted. The physician can prevent the passage of obnoxious class legislation if he only knows what is going on. It's the "joker" that is dangerous.

Next month we shall print some correspondence with Kansas doctors regarding this bill. As passed, it requires inspection of the doctors' drug supply by the State Board of Pharmacy, to which no one will make serious objection, so long as there is no discrimination against the medical profession.

JUST AMONG FRIENDS

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

(*Continued from page 279, March issue.*)

ROME was the mistress of the world, governing by the force of those her legions whose standards stood for sovereignty everywhere. The dominion of her eagles reached to the ends of the earth! Rome represented might, power, armed rule! Her centurions were the executioners of her decrees throughout farthest lands. At the same time the philosophy and the art of Greece dominated the intellectual world—a heathen philosophy and art that had attained to all that men could reach without the aid of supernatural revelation. The Jews, conservators of an ancient culture, bound fast in the tradition of an exclusive religion, elect in sentiment, jealous of their ancestry as families and as a people, looking on all the world as barbarian! Into this world came the Dreamer of Nazareth —the carpenter's son—the child born in the manger—the Messiah.

And what of it?

Who remembers the glory of Rome? The student. Who recalls the philosophy or the marbles of Greece? The artist! Who is familiar with the history of Phœnicia, of Egypt, of Judea? The antiquarian! Who can tell us the story of Tyre, of Sidon, of Antioch, of Athens, of the philosophy of Plato, or of Socrates, of the mastery of Alexander or Xerxes, of the royal line of the Ptolemys, the loves of Antony, the rites of the priesthood at Delphi or at Delhi? Aye, only the curious, who embalm in their memories the corpse of the past.

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But the Dreamer of Nazareth? What of him? He has conquered human thought.

Half the mothers of the world tell the story of the nativity to their babes—his words are as letters of light burned upon human hearts. His sentiments of justice have been framed into universal laws in every civilized nation. His teachings have been expanded until they fill all literature, permeate all thought and speech. His word has become mightier than the sword; his example more powerful than the enactments of senates or the decrees of monarchs. For love of Him, martyrs innumerable have willingly laid down their lives, devotees have carried His message to the remotest corners of the earth. His example has been the beacon-light of the centuries, leading toward human freedom as well as toward spiritual exaltation. From the prophets who spoke when the world was young; from the apostles to Chrysostom, and Luther, and Calvin, and Wesley, and to all the hosts of His interpreters and followers; through all the centuries and all the limitations of time; through the rise and fall of empires, the winning and losing of thrones, the creation and destruction of dynasties, the contraction and spread of learning; through every change and circumstance and time and place—the example and teaching of the Dreamer of Judea goes out as a message to the race.

Men build fortunes in commerce, in the avenues of trade; they rear great structures, accumulate large reserves, fill granaries against the time of want!

This is as it should be!

But the dreamer of dreams has put the stamp of his imaginings upon the thought of the world, too.

—

How regrettable it is that those who appear to be so fond of making themselves and, what is far worse, others around them, intensely miserable will not realize that nothing on earth is gained by fretting. Hard work viewed in the distance seems too much for one person to perform, but when brought face to face with it much of the difficulty disappears. When the mind is made up that a certain work shall be done, it begins to devise a way. As soon as the obstacles are removed, the thing itself becomes easy; then as the work progresses it becomes interesting, and when finished gives more real satisfaction than much more work of minor importance.

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Hard work must not be confounded with overwork; the latter is never commendable, for no one has a right so to exhaust his physical powers as to unfit him for mental

recreation. Any person, who drudges from morning till night, then lies down like the weary beast of burden to sleep till morning calls to labor again, must have a mind as empty as a soap bubble and can not enjoy the benefit of his labor. Hard work must not be continued to exhaustion. The harder the labor, the less one should take of it for a day's work. One can put in two or three hours and not suffer; but double the time, and we have trespassed on the laws of health. Better occupy half the day in lighter employment. Take a good night's rest, and begin again the next morning with new interests. A tired man or woman very often is a disagreeable person and is not pleasant company.

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In stubborn cases of dysmenorrhea that fail to yield to any of the generally recognized rational methods of treatment a 4-percent cocaine solution, when applied to the mucous membrane of the nose, often will give relief.

In incontinence of urine dependent upon the relaxation of the urethral sphincter, massage frequently will be found to afford excellent results. Introduce into the urethra a medium-sized metallic female urethral sound and rapidly but gently stretch the urethra by a series of rotary movements. This should be done for a minute or two each day. A few weeks of this treatment many times will accomplish the desired results.

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One cause of disease may be described as the clogging of the avenues of the body by the wear and tear of the human machinery and the retention, mechanically or otherwise, of some material that should be cast off. The wearing out of the human machinery furnishes a fit medium for the growth of various inimical species of germ-life. The longer the waste is allowed to clog the various avenues of elimination, the more will these microbes multiply and thus produce a still further clogging of the system. The more the system is clogged, the more impure the blood current becomes; and the more the circulation is burdened, the greater the efforts put forth by the vital force to control the general welfare of the body, the more rapid will become the circulation and the higher the temperature. The process of cure is the opposite; namely, cleanse all the avenues, tone the organs into the performance of their various functions. As Abbott says, "clean out, clean up and keep clean, and then take up the slack." Of one thing there can be little doubt, and that is, that there are some forms of germs which produce disease, but not without preexisting favorable conditions for their propagation. Germs interfere only with those persons who are in the proper condition to receive them or to place themselves in proper relation to become infected. Keep well by keeping all the emunctories free of waste matter.

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Application of hot physiologic salt solution is one of the best treatments for ulcers of the leg. The salt solution has a physiologic effect on the tissues, exciting phagocytosis, and at, say, 58° C. is fatal to some bacteria, although not to spores. The ulcer is best irrigated with a hot solution for a quarter of an hour, after which a sterilized dressing (gauze, cotton, wool, and bandage) is to be applied. This is done daily until the ulcer cleans, then as often as necessary. Healing proceeds rapidly, making this especially suitable for persons who cannot spare the time to lie up in bed.

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Here are a few points I wish to give you this month regarding enemata. Given at night, they are useful in chronic constipation occurring in people occupied during the day; nervous individuals, however, who sleep badly will do better to take their injections in the early morning. Oil enemata are also effective in cases of peritoneal adhesions, which usually assert their presence by painful crises preceding the act of defecation. The following treatment should be employed two or three times inside a year: For the first two weeks an oil enema is given every day, then every second day for the following two weeks, then twice a week, and finally once a week.

Diarrhea in tuberculosis very often is due to a simple catarrh not of tuberculous origin, and this condition can be easily corrected by a regular use of enemata of a 3 : 1000 solution of salicylic acid.

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In cases of lithiasis use daily an enema composed of 1-2 pint of oil of sesame, 1 pint of hot water, 1 dram of pure castile soap, and 10 grains of carbonate of sodium to make an emulsion. The effect of this treatment often is remarkable. In weakly patients, these enemas should be given only every other day, since the systematic use of enemata exerts an action upon the circulation in arteriosclerosis too often ignored; for not infrequently it happens that this apparently simple measure brings about a crisis of grave prognosis. Medicated enemata must always be of but small bulk, say, about 2 ounces,

with, for example, marshmallow or acacia for basis. Nutritive enemata should contain milk, yolk of egg, and a pinch of salt.

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Too much reading and too little thinking have the same effect upon a man's mind that too much eating and too little exercise has on his body. A learned fool is one who has learned everything and merely remembers it. Human knowledge is not very comprehensive, after all, for I have seen men who could calculate an eclipse to a dot, yet who couldn't harness a horse, to save their lives. The vanity of most men is so much more a match for their experience that they seldom learn anything by experience.

Men seldom are underrated. The mercury (speaking of mercury figuratively, of course) in a man finds its true level in the eyes of the world just as certainly as it does in the tube of the barometer.

To find an honest man nowadays is about as difficult as to trace out a cat's pedigree.

A man can't learn to be wise, any more than he can learn to be handsome.

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The majority of doctors find the treatment of chronic disease a stumbling block in the way of reputation and financial prosperity. The reason is, that they follow routine or some fad, instead of going about to work systematically, picking out and applying correct principles, making a definite plan and adhering to that persistently.

The three cardinal principles in the treatment of chronic diseases are rest, fasting, and appropriate medication. Of course, these principles must be applied with judgment.

Rest, for instance, does not mean that a man should drop his work, go home, pull off his boots, climb into bed and remain on his back indefinitely. He may need rest in bed, or maybe in a hammock with cool breezes playing about. He may need rest from whisky, heavy dinners, mental excitement; rest for the overworked stomach, the paralyzed bowels; rest for the nervous heart and strained nerves. Rest for the tired brain may be secured in a variety of ways. Lying down perfectly still and for very short intervals is a very good way to secure rest for heart, the brain, and the nerves, and it will pull one together in an astonishing way, and as a routine practice it undoubtedly lengthens the span of life.

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In chronic diseases, nutrition is abnormal. Waste is not promptly and properly eliminated, it accumulates; the system does not reduce its products to their lowest terms, thus causing friction and making the work of elimination all the harder. It is a great mistake to add further to the difficulty by giving more and more food to patients in whom the process of nutrition stagnates. Food will not be transformed into nourishing red blood unless the system needs it and there is appetite for it. Fasting rests the heart, making its work easier; it rests the stomach and bowels, enabling them to store up secretory and peristaltic power; it lowers blood pressure, flushing the area of elimination; it increases the consumption of water, softens and relaxes the entire body, so that the work of cleaning up can proceed with greater rapidity and the least expenditure of vital force. Fasting may be absolute for one day or for several days; it may be partial, by abstaining from one meal or two meals or by taking a very light diet.

We should always avoid extremes and hobbies, make successful experience the sole judge of the value of our method and be prepared to discard them for others if unfavorable symptoms develop in any particular case.

In regard to the choice of drugs, eliminants—such as saline laxatives, sodoxylin, thymol and podophyllin—and alteratives are indicated in all chronic diseases; but the preparations used must be reliable. Poor quality drugs and a want of perseverance with remedies are responsible for many failures in treatment. You must have good medicine and make the patient understand that he will have to take them faithfully and for a long time in order to get well. The alternation of remedies is important in the treatment of chronic diseases. Any one drug, no matter how good a remedy it is, eventually will wear out. It is a good plan to alternate the eliminant and the alterative, the one increasing nutrition and, therefore, waste, the other increasing the system's ability to dispose of this waste. Hence, renovation and reconstruction go hand in hand.

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Oftentimes the distressing or excessive palpitation of the heart can be arrested by bending double, the head down and hands hanging so as to produce a temporary congestion of the upper portion of the body. In nearly every instance of nervous anemic palpitation, the heart immediately resumes its normal function. If arrested during its action, the effects are still more rapid. Do not forget, however, in palpitation of the heart to examine the urine and to see that proper elimination is going on.

AMONG the BOOKS

BURKHOLDER: "ANATOMY OF THE BRAIN"

The Anatomy of the Brain. A Manual for Students and Practitioners of Medicine. By J. F. Burkholder, M. D., professor of ophthalmology in the School of Medicine of Loyola University Chicago; with an introduction by Prof. Henry H. Donaldson. With 40 full-page plates (6 of them colored) from original drawings by the author. Chicago: G. P. Engelhard & Co. 1912.

The author of this book is an anatomist—specifically a nerve-anatomist. His years of arduous and useful work in this field are known and admired of all men. But the prime value of his anatomical work has been his recognition, through it all, of the functional significance of what he has demonstrated. This is what lifts the work of all great anatomists out of the commonplace of skilled mechanics; this is what breathes upon the dry bones and makes them live. Always the true anatomist carries in his imagination the living, organic, dynamic entity the structural mechanism of which he is analyzing, just as the historian does with the living historic period the records he is reconstructing. Always he realizes that, since structural forms and arrangements are the plastic adjustment of matter into lines of least resistance—the paths blazed through the organism by the dynamism of function—they constitute a scheme of which plenary function is the key.

Burkholder has done this in all his present work. The more anatomy he explores and demonstrates, the more physiology he deduces and justifies. Not that he actually refers—at least in this little book—to the subject of physiology at all. So far as we can see, there is not a word concerning the function of the brain. Nevertheless, it is there, as it is in the work of all great anatomists, in the arrangement and orientation of the subject-matter. No man could so arrange and orientate it, except around the functional keystone; and no man can intelligently study it without perceiving the invisible keystone around which it is grouped.

Undoubtedly Burkholder's is the most complete, as it is the clearest presentation of the anatomy of the brain that we have ever seen. Like all great works, it is simple and self-illuminating. The subject unfolds itself as it proceeds. The utilization of the sheep's brain (which is comparatively easy to obtain) in place of the human brain (which is exceedingly difficult to get) enhances its practical value as a laboratory manual and ought to make it appeal both to student and teacher as an exceptionaly happy solution of one of the most vexed problems of the dissection room. But its value does not stop with the medical student. It may well take its place among the classical working-library of the biologist and the nerve-specialist.

STIMSON: "FRACTURES AND DISLOCATIONS"

A Practical Treatise on Fractures and Dislocations. By Lewis A. Stimson, B. A., M. D., Seventh edition, revised and enlarged; with 459 illustrations and 39 plates in monotint. Philadelphia: Lea & Febiger. 1912. Price $5.00.

The rapidity with which successive editions of this work on fractures have followed each other within recent years bears the best possible witness to its popularity. We are glad to announce a new revised and enlarged edition.

ROBINSON: "SEX MORALITY"

Sex Morality, Past, Present, and Future. By William J. Robinson, M. D.; Leo Jacobi, M. D.; James P. Warbasse, M. D.; Edwin C. Walker; James F. Morton Jr., M. A.; B. S. Talmey, M. D.; and Maude Glasgow, M. D. New York: The Critic and Guide Company. 1912. Price $1.00.

He who has followed the contributions to current literature of the writers represented in the volume before us hardly need be told that their modes of dealing with the subject considered in its pages vary considerably; and they do, indeed, arrive at rather different conclusions. The majority of the essayists

condemn the double standard of morality as it has come down to us through the centuries and advocate, for the best interests of humanity, not, indeed, equal liberty for women, but equal duties for men.

The book is of interest, not alone because of its subject-matter, but on account of the variety of the opinions expressed. Although undoubtedly too much is being printed nowadays on the subject of sex, we should not wish to miss any of the books put forth under the auspices of Dr. William J. Robinson. These books always are worth while, and always have something solid, something sensible to say and something that makes one think.

HOLLEN: "THE TAINT"

The Taint: Exposing the Dangers of Venereal Disease and How to Protect the Body Against Them. By Henry Bronson Hollen, Ph. G., M. D. Chicago: The Open-Eye Publishing Company. 1912. Price $1.00.

In the Report of the Vice Commission of Chicago, from which Dr. Hollen quotes, the statement is made that "the time is ripe for a united attempt to diminish venereal disease. To this end both sexes should be taught the personal dangers of the black plague." This little book undertakes to give this information, and it is presented in simple language that every one can understand, and in the most concise straight-to-the point way.

Dr. Hollen believes that instead of hiding the truth regarding the venereal diseases from his patients the physician should tell his patients all about them, explaining what they are, how they are contracted (both through sexual contact and innocently), the symptoms which they produce, the consequences that they entail both upon the sufferer and his or her offspring, and how they may be prevented.

In thus presenting "the truth and the whole truth" the author has discussed both the prostitute as a source of disease and the numerous accidental ways of contracting of extragenital syphilis. Two of the most interesting chapters are those concerned with methods of prophylaxis of venereal disease, both in the male and female. All the ordinary methods of prevention are described, including those employed in the United States Army and Navy—antiseptic douches, washes and ointments.

The little volume contains a large fund of valuable information, collected from many sources, and may well be placed in the hands of proper persons. Every physician should be familiar with it.

THE UROLOGIC AND CUTANEOUS REVIEW

There now lies on our desk a copy of *The Technical Supplement of The Urological and Cutaneous Review*, published by The Philmar Company, St. Louis. This is one of the finest pieces of journalistic work it has been our pleasure to examine for a long time. It consists entirely of careful reviews, mainly written by foreign authors, of certain problems of special interest to the urologist. For instance, there is a paper on "exclusion of the bladder," by Oppel, of St. Petersburg; one on "gonorrheal cases in the male treated without antiseptics," by Picker, of Budapest; one on "the progress of urethroscopy; the diagnosis and therapy of diseases of the urethra," by Wossidlo, of Berlin; one on "the inflammation of the seminal follicle," by Orlowski, of Berlin; one on "the pathogenic role of perinephritis of the hilus," by Peusson, of Bordeaux, besides many others too numerous to mention.

The illustrations in this *Technical Supplement* are superb. The frontispiece is a reproduction of Joannes Philip Burggrave—not "our" Burggraeve, but a German physician of similar name, who was born at Darmstadt, and who died in the year 1700. Also striking is the fine three-color plate opposite page 48 illustrating urethroscopic findings, while the plate in black and white opposite page 80, showing the leukocytes in mucus and blood, is also of very great value. There are numerous other illustrations, some of them full-page, and all distinctly adding to the interest and value of the book.

We are informed that this *Technical Supplement* is to be published quarterly, the price to be $1.00 per number, $3.00 per year. Any physician interested in this subject should secure it.

"PRACTICAL MEDICINE SERIES"

In the "Practical Medicine Series" (The Year Book Publishers, Chicago), for 1912, volumes III to X, are now before us, the current literature has been selected and abstracted in the same excellent and careful manner in which this useful work was done in the previous series, the editors of the departments of the different disciplines being the same as before, barring a few exceptions.

The "Practical Medicine Series" forms one of the few really good works open to the general practician desirous of keeping himself informed of the progress in medical science. The cost is comparatively slight, the subscription price being only $10.00 for the entire ten volumes of any annual series. However, the individual volumes may be secured at prices ranging from $1.25 to $1.50, so that physicians interested in particular subjects may buy only those volumes covering these subjects.

"INTERNATIONAL CLINICS"

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A. M., M. D., and others. Philadelphia: The J. B. Lippincott Company. Series XII, volume IV, 1912. Price $2.00.

The most recent volume of this well-known and excellent series of clinical lectures contains a number of articles that are of great and timely interest and which illustrate the trend of medical endeavor and opinion. In the nature of things it is not practicable even to enumerate the subjects discussed, but the reviewer always takes pleasure in recommending these publications to physicians.

LE NOURISSON

Le Nourisson—Revue d'Hygiène et de Pathologie de la Première Enfance, is a new bimonthly French journal edited under the direction of Prof. A. B. Marfan, and published by J. B. Baillière et Fils, at Paris. This new review of infants' diseases made its first appearance in January. It contains original articles, reviews, clinical reports, bibliographies, and so forth, and promises to become an interesting contribution to pediatric literature. Not only Prof. Marfan, the editor in chief, but also his associate editors are well known, both in Europe and in this country, for their efficient work. We offer this new journal our cordial wishes. The subscription price is 14 francs for foreign countries.

BOOKS RECEIVED

Obstetrics. A textbook for the use of students and practitioners. By J. Whitridge Williams. Third enlarged and revised edition, with 16 plates and 668 illustrations in the text. New York and London: D. Appleton & Co. 1912. Price $6.00.

A Textbook of Gynecology. By William Sisson Gardner, M. D. With 138 illustrations. New York: D. Appleton & Co. 1912. Price $3.00.

Pathology and Treatment of Diseases of Women. By A. Martin and Ph. Jung. Only authorized English translation, written and edited by Henry Schmitz, M. D. With 187 illustrations, 25 of which are in colors. New York: The Rebman Company. 1912. Price $5.00.

Electricity in Gynecology. The practical uses of electricity in diseases of women. By May Cushman Rice, M. D. Second edition. Illustrated. Chicago: L. I. Laing & Co. 1912. Price $1.00.

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CONDENSED QUERIES ANSWERED

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5896.—"Acne Rosacea." E. C. B., Massachusetts, asks for an outline of the treatment of acne rosacea. In the first place, we must remember that acne rosacea may be due to one of a variety of conditions, including gastrointestinal disturbance, uterine congestion, chronic constipation, lithemia, anemia, hepatitis, plethora, tuberculosis, and that this largely must determine its management.

The milder forms of acne yield readily to regulated diet, that is, the exclusion of fats, spiced or highly stimulating foods, sweets, cheese, pastry, nuts, oatmeal, coffee, alcoholic beverages, and everything indigestible or liable to generate toxins; the thorough elimination—renal, intestinal and cutaneous; and the equalization of circulation. Saline laxatives constitute an essential element in the treatment. Diuretics may be indicated.

In gastric indigestion, the papain or pepsin compounds should be ordered. In the intestinal form, the bilein and pancreatin compound, one tablet an hour after meals; dilute nitrohydrochloric acid, 10 to 15 minims with food, may advantageously be added in hypochlorhydria.

In acute cases, soothing applications must be applied. A solution of epsom salt (1 ounce to the pint) may be used to sponge the parts, then a lotion of bismuth subnitrate, magnesium carbonate, and rose-water applied.

In the chronic form, more stimulating treatment is essential. Resorcin, 1 dram; ichthyol or isarol, 2 drams; cerate, 6 drams; made into an ointment, may be applied every three or four hours to mild desquamation. Then the strength of the ointment should be reduced at least one-fourth and application made but once a day.

Multiple scarification, electrolysis or thermocautery may be resorted to in order to destroy dilated blood-vessels remaining after congestion has been subdued. Large excrescenses may have to be excised or removed with galvanocautery.

It must be remembered that seborrhea may be a primary or a secondary condition. The disease is extremely obstinate, but we have found the majority of cases influenced by persistent treatment; not infrequently cure can be secured in three or four months.

In the true hyperemic form, little can be accomplished save by surgical procedure.

As you can readily understand, the prognosis in all cases will depend upon the character of the etiologic factor. Tobacco should be prohibited. We lay particular stress upon this point, because in at least two cases which refused to yield in the writer's practice, the condition disappeared as soon as the patient ceased smoking. A careful examination of the nares is essential. Not infrequently the relief of intranasal pressure causes a prompt disappearance of this disorder.

Ichthyol is of unquestionable service. Isarol proves equally efficient. Either may be applied in the form of a lotion or ointment at night and 1 or 2 minims be given three times daily with a little cinnamon-water or in a capsule. Ergot sometimes proves an effective remedy. Of late years we have used a sulphur-compound solution and find it even more satisfactory than Vleminckz's. It is advisable to dilute with 10 to 15 parts of water and then gradually increase the strength until irritation or exfoliation is produced; then reduce. The continuous uninterrupted use of ointments is not advisable. Where hard nodular lesions are present, mercury or ichthyol plaster proves of service.

In this connection, let us call your attention to the very excellent chapter on this subject which appears in Stelwagon's "Diseases of the Skin."

QUERY 5897.—"Cretinism." P. J. F., Pennsylvania, desires to give lecithin to a child fifteen years old who is a dwarf or a cretin. A general outline of treatment for this girl is requested.

You say that you are now treating a "child of fifteen years, who is a dwarf or a cretin." But a more distinct diagnosis is highly desirable; though, as a matter of fact, the same treatment applies in myxedema and cretinism.

For a thorough description of both conditions see Holt, Koplik, Graetzer-Sheffield or other modern work on pediatrics. The treatment outlined in "Everyday Diseases of Children" (Candler) is as effective as any. We reproduce the essential paragraphs herewith:

"The child is given a salt sponge-bath, and is kept in the open air as much as possible. Fresh thyroid glands are chopped up and given in sandwiches or *au natural* with a little salt. Nuclein is pushed for one month in 10-drop doses, morning and night; and arsenic iodide and iron iodide are given one hour after meals, day and day about, for a like period. Sanguiferrin, 1 dram, with meals. At the end of a month exhibit thyroid extract or iodothyrim three times a day; and calx iodata, gr. 1-3; phytolaccoid, gr. 1-6; and rumicoid, gr. 1-6; morning, noon and night for another month. Continue sanguiferrin with meals. Flush the intestine every third day; dilate the sphincter ani; circumcise; and, if lime salts are markedly lacking, give calcium lactophosphate, one granule (gr. 1-6) four times daily for ten days, resting ten days, then repeating. I cannot lay enough stress on the necessity for alternation of these remedies.

"It may be well to add that avenine relieves many of the nervous symptoms, and, where there is congestion of the sexual centers leading to continuous masturbation, this drug, together with gelsemine, gr. 1-250 every four hours, gives prompt relief. Give full doses —1-2 to 1 grain—of the avenine.

"Don't let any infant afflicted with myxedema or cretinism go untreated; even where the child is twelve years old and seemingly a 'hopeless idiot.' These measures and careful mental training sometimes will work what looks like miracles. Massaging with a bland oil is beneficial."

By the way, doctor, you should procure a copy of Dr. Candler's book. Physicians who have had occasion to consult it do not hesitate to state that their success in pediatrics began with its possession.

QUERY 5898.—Fatal Sloughing Following Forceps Delivery." G. T., Indiana, wishes to know whether he did the right thing in the case briefly outlined herewith. "A short, fat woman, forty-two years old, mother of six children, with a generally narrowed birth-canal, labors always slow and severe. Labor-pains began about 8 o'clock in the morning; I was called in mid-afternoon. I found the labor-pains good and regular. By midnight the os was dilated two or three inches. At this time pains entirely ceased. I gave quinine, but without effect, and only severe manipulation of the uterus would cause a pain. No fetal heart-beat could be detected, and no movements had been felt for three days. The child was in R. O. A. position; no descent into the pelvis. After waiting fourteen hours and the pains not setting in again, I called in another physician.

"Believing that we were dealing with a dead child, we gave an anesthetic. I applied the forceps and, by hard work, delivered a child which, much to our surprise, was living, and successfully resuscitated after fifteen- or twenty-minutes' work. The forceps was applied over the ears and ranged back over the occiput. However, the pressure from the instrument caused sloughing which resulted in death two weeks later. The left frontal bone was badly depressed. Now I wish to ask whether it would have been wiser to wait for spontaneous delivery or to have done cesarean section?"

Unfortunately, the information given is not as detailed as we could desire. For instance, your statement "the forceps was applied over the ears and ranged back over the occiput" is difficult to understand if the position, as you state, was R. O. A.; such placing of the forceps would seem more consistent with the R. O. P. position.

It is possible that symphysiotomy would have given the child a better chance, but the risk to the mother might have been greater. We are not advised as to the pelvic measurements; but certainly we should have deemed it advisable, had we been in attendance and and aware of the fact that the birth-canal was abnormally narrow, to resort to the use of the pelvimeter. The age of the woman must, of course, be considered; and, as the viability of the fetus was uncertain, there was justification in attempting to deliver naturally. If, on the other hand, the pelvimeter and general exploration of the pelvis revealed such contraction that the safe passage of a normally sized fetal head could not reasonably be expected, cesarean section or symphysiot-

omy should have been seriously considered. However, under the circumstances, you cannot be criticized for having omitted the use of the pelvimeter or for regarding forceps-delivery as practicable.

A very competent obstetrician to whom we referred your query remarked, "If his diagnosis of the position was correct, I should probably have taken the same course as he did."

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QUERY 5899.—"Septic Phlebitis." E. W. L., West Virginia, asks what we can tell him about treatment of septic phlebitis? This term "septic phlebitis" may be used to describe either the acute surgical or else the chronic form, in which latter the skin becomes ill nourished, glossy and eczematous, with resultant ulcers. The treatment of phlebitis naturally takes on sundry and quite diverse phases and the symptoms may be unmistakable or obscure, according to the situation of the affected vessel.

In the acute condition, fever is present and the inflamed area is exquisitely tender. The blood contained within the veins clots and edema results. Infected thrombi dislodged may be carried into distant parts and set up metastatic abscesses or a general pyemia.

In this form, especially in phlebitis of the extremities, the affected area must be put at rest, and cold creolinated epsom-salt compresses (creolin, 20 drops; epsom salt, 1 ounce; water, 1 quart) applied constantly. Colloidal-silver ointment or ichthyol and guaiacol in a lanolin and vaseline base should be inuncted. The patient should receive full doses of nuclein and calcium sulphide, and also aconitine, gr. 1-1000, and digitalin, gr. 1-64, every four hours, to equalize the circulation.

If at all possible, the septic focus from which the phlebitis originates should be treated. Chronic varicosities require surgical treatment always. An elastic or flannel bandage may secure temporary comfort, but the last stage is really worse than the first.

In varicose veins of the extremities, a thorough resection of the diseased veins or ligation and resection of the long saphenous vein at the saphenous opening is recommended. Mayo has devised an instrument, called a "vein-stripper," which permits of the subcutaneous removal of the greater part of the varicosed vessel. The vein is exposed through a transverse incision, cut, ligated, and threaded upon the instrument. It is then separated from the tissues and the collaterals are broken by forcing the stripper along the vein. Another incision is made over the end of the instrument, the distal portion of the vein ligated and the separated part removed. Such an operation should be performed only by a thoroughly competent surgeon, while the patient demands careful nursing and constant attention for at least two weeks thereafter.

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QUERY 5900.—"Foot Calluses." A. P., South Dakota, is desirous of removing callous formations on the soles, these indurations appearing every winter and making walking very painful. In this connection, he also writes: "CLINICAL MEDICINE is getting better every year, and I could not get along without it."

Callosities on the soles of the feet sometimes prove extremely rebellious to treatment. Salicylic acid in strong solution removes corneous epidermis, and we suggest, therefore, that you soak the feet for twenty or thirty minutes in a strong solution of magnesium sulphate (1 ounce to the quart), then apply, after removing as much of the calloused skin as possible, a dermal solvent consisting of alcohol, 3 1-2 drams; extract of cannabis indica, 10 grains; salicylic acid, 30 grains; collodion 1 1-2 drams. Make such application with a brush twice daily, soaking the feet every third night. In a very short time, we think, you will find the callosities disappearing.

Should the parts become painful, suspend treatment for a few days, then resume. Lactic acid has been used by the writer with success. A very small quantity only, however, should be applied at one time.

Be sure to wear properly fitting shoes, and, as soon as the callosity has been removed, dust into the sock, each morning upon rising, a little zinc stearate. Where the callous is very thick, the best results may be secured by painting on a solution of caustic potash. Several applications can be made within an hour and then the softened part removed by scraping or shaved away with a sharp knife.

Some writers recommend the continuous application of a 10- to 25-percent salicylic-acid rubber plaster. After several days this is removed and the foot soaked in a magnesium-sulphate or sodium-bicarbonate solution and the mass then rubbed away. The applications may then be repeated once or several times, according to the degree of thickening.

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QUERY 5901.—"Bunions." G. H., Illinois, desires to learn of some preparation which

will "cure or at least relieve the misery caused by inflamed bunions."

Applications of ichthyol relieve pain, or, as you express it, "misery" from inflamed bunions. First of all apply to the painful area compresses wrung out of a hot solution of magnesium sulphate (1 ounce to the pint), or the foot may be soaked in a 1-ounce to the quart solution for fifteen minutes; then apply ichthyol on gauze. Relieve pressure by wearing a properly fitting shoe, or use an arch-support. If the bunion is on the toe, various mechanical contrivances may be used to draw the toe outward. A lead and opium wash has been used advantageously; a good formula being: solution of lead subacetate and tincture of opium, of each 1-2 ounce; well-water, 7 ounces. Apply freely on absorbent cotton or gauze. Frequently, however, operation is necessary.

If the inflammatory stage has passed, any good dermal solvent may be used. Apply night and morning for several days, then soak the foot in hot epsom-salt water, and finally pare or scrape away the thickened epidermis. Repeat the preparation as may be necessary. Benzoinated collodion makes an excellent protective. In some cases extreme pain may be relieved by the application of equal parts of ointment of belladonna and of iodine.

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QUERY 5902.—"Stomatitis Mycosa." A. H. V., Michigan, forwards a sample of milk from a woman who is nursing a 3-months-old baby. She is about twenty-four years old and in good health generally. This is her first child. The baby is under treatment for "sore mouth," the lips being "white as if burned with carbolic acid," while there were also similar patches on the inside of both cheeks and under-surface of the tongue. About a week ago the mother noticed that the baby did not like to take milk from her right breast (from which the sample was taken), but would nurse freely from the left. She also noticed that baby has not gained in weight during the past week, although previous to that time it made a steady gain. The baby is well nourished, but suffers considerably from constipation, for which the mother has been giving castoria quite freely.

The report of the pathologist upon the specimen of milk showed a very low percentage of fat. A little cream and barley-water might advantageously be given in addition to the breast-milk, but first of all the stomatitis evidently existing must be corrected. It is probable that there is an infected fissure in the right nipple. Examine carefully.

Mycotic stomatitis is due, as you know, to the presence of oidium albicans. The spots are grayish-white and are not confined to the gums, but frequently appear on the lips, tonsils, pharynx, and mucosa of the cheeks.

Croupous stomatitis is a rare condition. Invariably, here, the mother's breasts will be found painful on palpation, and a membranous patch may be discovered around one of the nipples. When only one nipple is diseased, the child may receive milk of the healthy breast, milk in the diseased breast being drawn out with a breast-pump and thrown away.

Make a very thorough examination of this woman, for, if a typical croupous or diphtheritic stomatitis develops, you may have serious trouble. We are inclined to think, however, as you do not mention any systemic disturbance in the child, that you have to deal with a distinct stomatitis mycosa.

Keep the nipple thoroughly clean with boric-acid solution, then apply thuja and glycerin, cleansing the child's mouth before and after nursing with warm boric-acid solution. A mentholated solution of the combined sulphocarbolates is also effective.

Give the infant 1-16 of a grain of blue mass and soda every fifteen minutes for four doses, adding irisoid, 1-6 grain, to every other dose. Repeat this every third day. Every two or three days give a few teaspoonfuls of a weak solution of a laxative saline three times daily. An excellent plan is to crush a tablet containing the Bulgarian bacillus and spread the powder over the affected area, where it will be gradually absorbed, the lactic-acid bacillus destroying the spores or any complicating bacteria.

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QUERY 5903.—"Dermatitis Exfoliativa." J. M. W., Ohio, describes a case of skin-disease occurring in a German, a man 80 years of age and weighing more than 200 pounds. This man had served in the German army for many years. He has good heart action, a good appetite, and is in general good health, except for this eruption, which came on five weeks ago, and now extends all over his trunk and limbs, the latter being swollen considerably. The eruption is of a scarlet or raw-flesh color; the skin is wilted and covered with fine pimples, in which, occasionally, a little pus forms. The epidermis peeled off, about ten days ago, and the swelling of his limbs somewhat abated, but has reappeared; the eruption is worse also and the skin is beginning to scale off again.

The itching and burning almost drive him crazy at times when the room is very warm. Treatment has proved ineffective; although the application of plain flour relieves him a little; so also does a lotion of lead acetate. He can get but little sleep, night or day.

We are inclined to think that this patient suffers from dermatitis exfoliativa, due to autotoxemia. An edematous condition is not infrequently noted, but the papules are rarely observed on the face. Itching usually is intense. Arsenic causes increased severity of all the symptoms. Brocq describes this condition as "lichenification," and says it shows a tendency to recur.

As you will readily understand, a careful examination of the individual and his secretions is essential; before we can prescribe intelligently, the underlying disorder must be recognized. Common sense, however, teaches that we must primarily "clean out and keep clean," not alone the entire digestive tract, but the body generally.

We suggest that you send to a good laboratory a specimen of urine (4 ounces from the entire 24-hour output from morning to morning, stating the total quantity voided), and also a blood-smear, together with more definite clinical data.

In the meantime order the right kind of food, exercise to the limit of tolerance, and secure general but thorough elimination by way of kidneys, intestines and skin.

The skin, first of all, must be cleansed with a warm solution of magnesium sulphate. Into a gallon of water put a double handful of wheat-bran, let this boil, strain, then add 4 ounces of magnesium sulphate. For each pint of this add 4 drops of creolin or carbolic acid. Sponge the body with this lotion, and then apply a good antiseptic oil, previously diluted with an equal part of olive oil. Repeat this treatment daily. The colon should be washed out every other day with an ample warm salt solution.

The patient should walk a half mile, more or less, before taking his meals; an hour after eating let him take another walk. If he is unable to do this, let him exercise before an open window or else have someone else exercise his limbs, this to be followed by massage if the patient is rather weak. Order a light nutritious diet, including eggs, fish, poultry, milk-products, fruit, vegetables, and whole-wheat bread and other cereals in digestible form. Lime and iron, with other "cell-salts," are needed imperatively. Vibration and light faradic treatments may be applied by those who know how. The therapeutic (high-power) lamp would be of service in most instances.

Medicinally, certain remedies are positively indicated at the outset; but here, if anywhere, medication (to be effective) must be so applied as to meet the pathologic conditions. These must of necessity vary in even a single case from time to time. However, calomel and irisoid will certainly be indicated to insure hepatic activity, free stools and increased elimination of waste, 1-3 of a grain each, hourly for four doses every third night, and a strong saline purge next morning being proper treatment. Nuclein, 10 drops (under the tongue or hypodermically) twice a day will prove an effective reconstructant; while xanthoxyloid, gr. 1-3; stillingoid, gr. 1-3; boldine, gr. 1-32; taken every three hours, will insure the elimination of the effete products of active cell reconstruction. Calx iodata in small but repeated doses will instantly suggest itself to the thinking therapeutist. We should give 1-6 grain on an empty stomach four times a day. Quassoid will make the patient eat all he should have, and, if digestion is at fault (as it usually is), papayotin will be called for. Finally, the sulphocarbolates of lime, zinc, and sodium—alone or in combination—will be needed "to effect," to prevent putrefaction of the intestinal contents and further absorption of toxic matter.

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QUERY 5904.—"Blushing." O. N., Illinois, wants a treatment for undue blushing. It is a difficult matter to prescribe for this, especially when we are unfamiliar with the peculiar emotional state present in the individual which causes inordinate reddening of the face.

Campbell, in a recent article in *The Practitioner* says: "The flush is the external sign of the inward working of the mind; it betrays that which one would be at great pains to conceal; the strongest effort in self-control is powerless to hide this glaring testimony to the inner thought. The fate of the inveterate blusher is peculiarly hard. He lives in constant dread of making an exhibition of himself, and many instances are reported of patients who are compelled to abandon their occupations on account of blushing."

The essential cause is an inherited temperament. The patients are sensitive, shy and self-conscious, and live in constant dread of displaying their weakness. This expectant attention increases their liability to it and is a potent factor in causation.

It has been epigrammatically stated that temperament is blood; hence, if we admit that psychasthenia is dependent upon temperament and temperament again largely determined by the composition of the blood, it is evident that the blood should primarily receive attention, and we should seek not only to equalize circulation, but to keep the blood itself in as nearly normal condition as is possible. Elimination (renal, dermal, and intestinal) is essential.

The patient should be instructed to exercise actively in the open air; the outdoor games are beneficial, not only because they increase oxidation of the blood, but because of their disciplinary effect and the self-confidence they impart.

Vasomotor instability of the facial arterioles also plays its part. It is not easy to control such local instability. Solanine and small doses of gelseminine hydrobromide might be advantageously given and would certainly prove preferable to the bromides, which have been recommended.

As the vasomotor centers in the face are affected by digestion, the patient should be instructed to masticate thoroughly, and if necessary should be given a digestant. The main essential, however, is to give the patient confidence in himself and change his outlook on life. Suggestion, under such circumstances, would naturally be of value.

In an abstract from a long article by Aronsohn, which appeared in *The Journal of the American Medical Association*, 1909, this statement appears: "The writer has found that persons addicted to excessive blushing are diffident, anxious to appear different from what they really are, and that the tendency to morbid blushing can be overcome by urging them to be more natural and true. He has always been able to cure it by moral suasion, supplemented by a little hypnotic suggestion to inspire the patient with courage and decision.

Hartenberg, in *La Presse Médical*, states that he has "always found an organic basis for excessive blushing, some physiologic peculiarity creating a predisposition to the emotional reflex. In six cases described in detail the following signs are found: the heart was exceptionally active, the beat powerful, but its rhythm was not accelerated; the carotid arteries were engorged and the head sweated easily; drops of moisture appeared on the brow and cheeks as the individual was speaking. Only one of these patients was a woman, the others were men between the ages of eighteen and thirty-two. The cardiac erethism, dilation and hypotension of the arteries suggest certain symptoms of exophthalmic goiter, and one of the patients had other symptoms of an incomplete form of this disease. The writer conquered the habit and morbid dread of blushing by the galvanic current, which he has found useful in exophth. lmic goiter. The positive electrode was applied to fit around the front of the neck, the negative on the back, abdomen or elsewhere; a current of 50 milliamperes was applied for thirty minutes, every day at first, then every second day. This electric treatment was supplemented by two or three grains of a bromide daily, with some restriction of salt. Twenty to thirty electrical sittings were generally necessary. Psychotherapy does not remove the cause."

Literature on this subject is fairly extensive. The French, especially, seem to have made a study of the psychasthenic; yet, we are lead to believe that it takes a great deal to make a French woman change color!

As a matter of fact, to institute effective treatment, we must study the individual, seeking relief most carefully. It is well to remember always that flushing may be normal or abnormal. For instance, the diffidence of a young girl making her first appearance in society is naturally evidenced by reddening of the cheeks, and we should expect the healthy young woman in the presence of a desirable individual of the opposite sex to blush more or less. How else would it be possible for the poet to dilate upon the "rosebed cheeks of his inamorata."

Blushing in young women frequently disappears with marriage (which is deplorable), and the writer after many years' knocking around among his fellow-beings has come to believe that the young woman who does not blush under certain circumstances is so sophisticated that she cannot do so, i. e., having knowledge, she is no longer amenable to those psychic disturbances which occur in every normal and sexually mature female when in the presence of a desirable possible mate.

We would not seek to cure such blushing; and it is a question whether blushing in mature males, evidencing as it does a weak and unstable temperament in the majority of cases, should not be regarded as a natural warning, i. e., a danger signal which, displayed, leads us to refrain from entrusting him with great matters.

HARNESSING THE ELEMENTS

WHEN Ben Franklin proved possible the conduction of electricity, he discovered no new element, but simply located and focused a power that had existed since the world's inception. Ben—so to speak—threw a halter onto a creature that his fellows might harness it.

From Columbus down, it is the same old story, the halter before the harness.

Thus science smooths the way to many a goal. The chemist does his work thus, taking something that for ages has remained useless, or comparatively so, simply because, though possessing power, he has not known how to appropriate it, and, throwing on the harness, has made it useful.

No greater work can be done than that of the untiring chemist. In the drug world these chemists are constantly placing at our disposal elements, or combinations of elements, that physicians could get little benefit from, all "bridled and saddled with which we may ride to victory."

Creosote has been in the hands of physicians for many, many years; its great value as a medicinal agent recognized by all authorities, yet it could not be employed in sufficiently large dosage to produce results because the patient was unable to assimilate it, hence it is but little employed.

Chemists realized the situation and many efforts were made to get creosote into a soluble form, but only with partial success until the happy discovery was made that when chemically combined with calcium the elements were partially broken up and new chemical combinations made that put the creosote into a form in which it could be successfully employed.

The *new* chemicals formed by the union of calcium with creosote were found to be *calcium guaiacol* and *calcium creosol* together with the already known *calcium carbolate*.

Since the names of the three distinct chemical combinations that are harnessed together could not be applied to this new chemical substance, it was given the name *Calcreose*.

Calcreose, then, contains practically fifty percent of creosote, broken up as described above, into chemical combinations which make it valuable.

That creosote may be administered—through this new chemical combination—in large doses has been demonstrated in thousands of cases. *As high as 120 minims of creosote has been administered daily—through calcreose—with absolutely no unfavorable results.*

"Capsule creosote liberates creosote too abruptly upon delicate structures, and if the dose is at all commensurate with its full medicinal power, it irritates rather than medicates localized areas of the gastrointestinal tract. Other forms have not been carrying sufficient creosote to exhibit the potency of the substance in a given dose," writes one physician.

What have we, then, in this new product of the chemist's?

We have a happy chemical combination of creosote with calcium that liberates the creosote in an assimilable form, one in which creosote may be administered in sufficiently large doses without difficulty.

It has been found, further, that the chemical combination of creosote with calcium enhances the germicidal power of the chemical; in other words, that when creosote is chemically combined with calcium it not only makes the use of creosote possible, but the medicinal value is greatly enhanced by the combination and its range of usefulness increased.

New products for the treatment of *tuberculosis* are constantly rising in the east and just as regularly setting in the west. Creosote was here ahead of them all, its value recognized by all authorities years ago, and never disputed; yet all were unanimously agreed that it was impossible to give it in sufficient dosage to afford more than slight relief, until the combination with calcium was discovered.

The value of creosote being unquestioned, physicians who have become acquainted with Calcreose have grasped the opportunity to employ it, for, be it remembered, while creosote alone can only be given in small doses, when combined with calcium and broken up into the new chemicals, calcium guaiacol, calcium creosol and calcium carbolate, it can be given in sufficient quantity, not only to stop the growth of the germs, but, in many cases, to repair the damage already done.

Results from the use of Calcreose in *tuberculosis* are often said to be remarkable—it not only stops the progress of the disease, but it increases strength, appetite and weight.

In *bronchitis* and *pneumonia* it is largely employed and almost invariably with success.

Since the action upon the gastrointestinal tract is decidedly germicidal, there is a wide field of usefulness in that large class of cases due to the absorption of toxic products of bacterial growth. It is, therefore, indicated in *typhoid fever, diarrhea* and other cases requiring a *gastrointestinal antiseptic*, and clinical experience proves its value.

Most of the new products that are introduced to physicians are extremely high in price. *Calcreose is inexpensive.* A pound of Calcreose powder (costing $1.75) makes a gallon of solution by simply adding pure water.

The manufacturers are desirous that every physician who reads CLINICAL MEDICINE should give Calcreose a thorough and careful clinical test. Its value has been demonstrated over and over again, but they want *you* to *prove* its value in *your* practice.

To accomplish this result they are willing to send to each physician signing the coupon below a sufficient quantity of the product, both powder and tablets, to give it a thorough test in several cases.

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